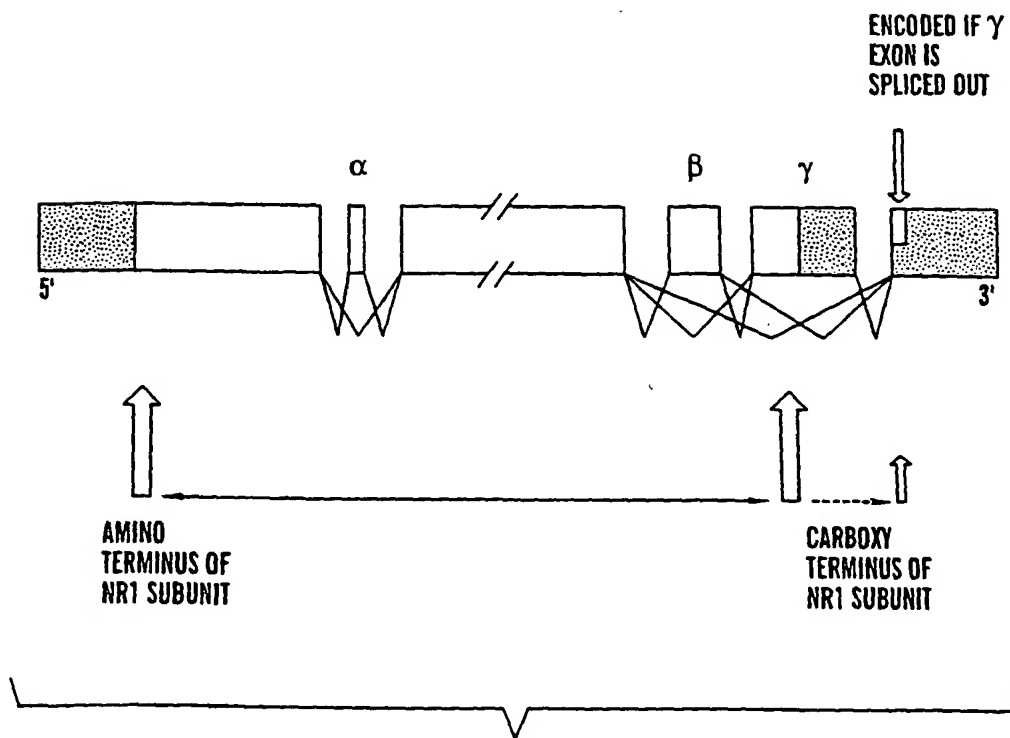
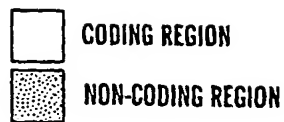
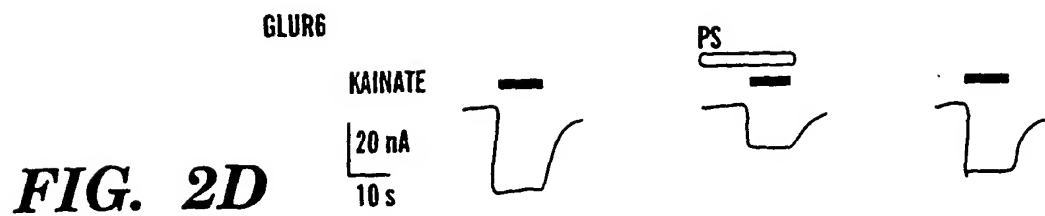
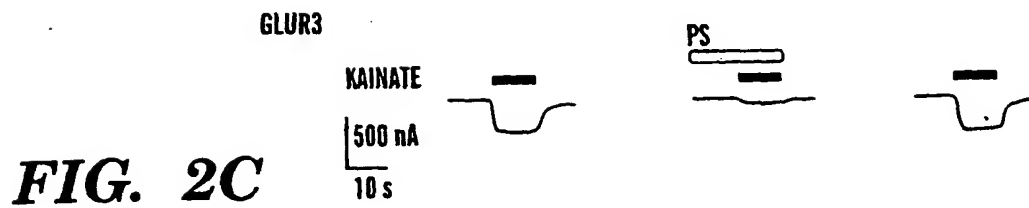
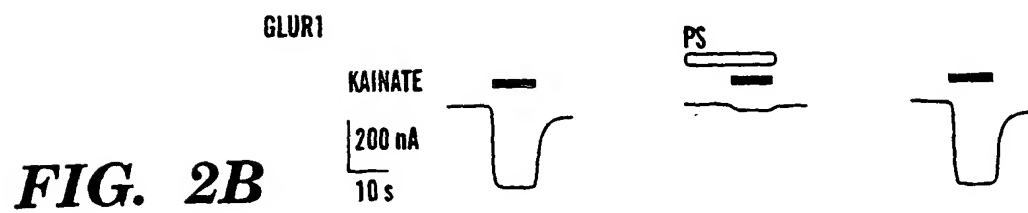
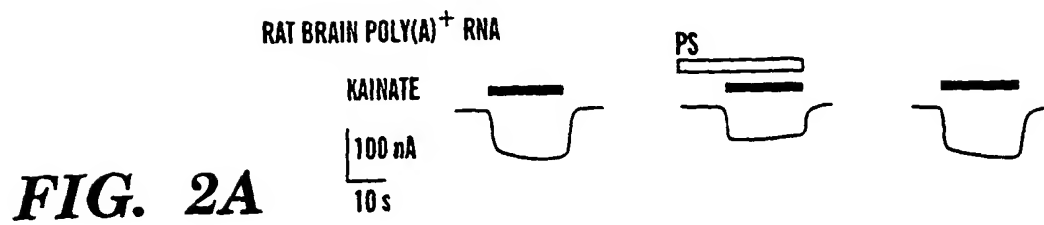


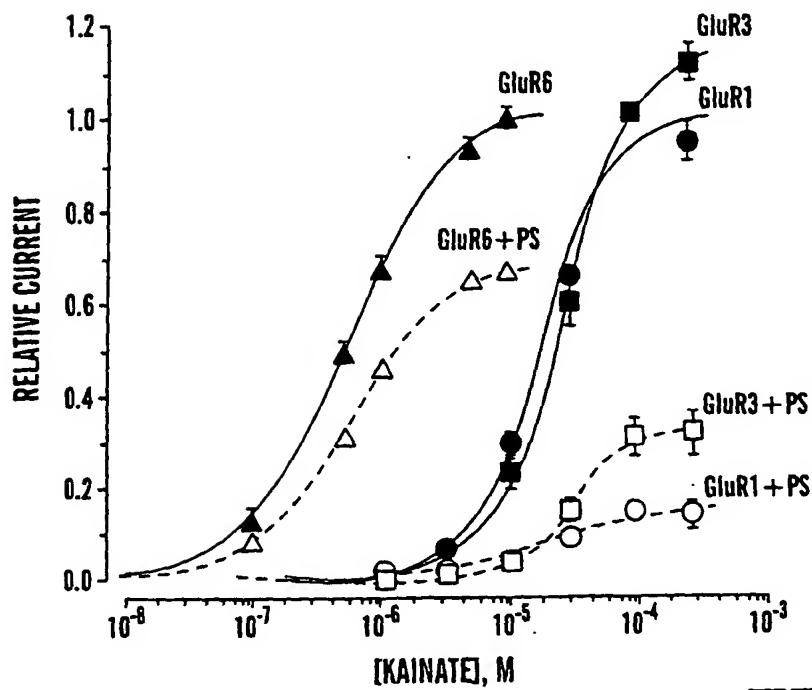
### Prior Art Model

ALTERNATIVE SPliced EXONS	NO. OF AMINO ACIDS ENCODED
$\alpha$	21
$\beta$	37
$\gamma$	38

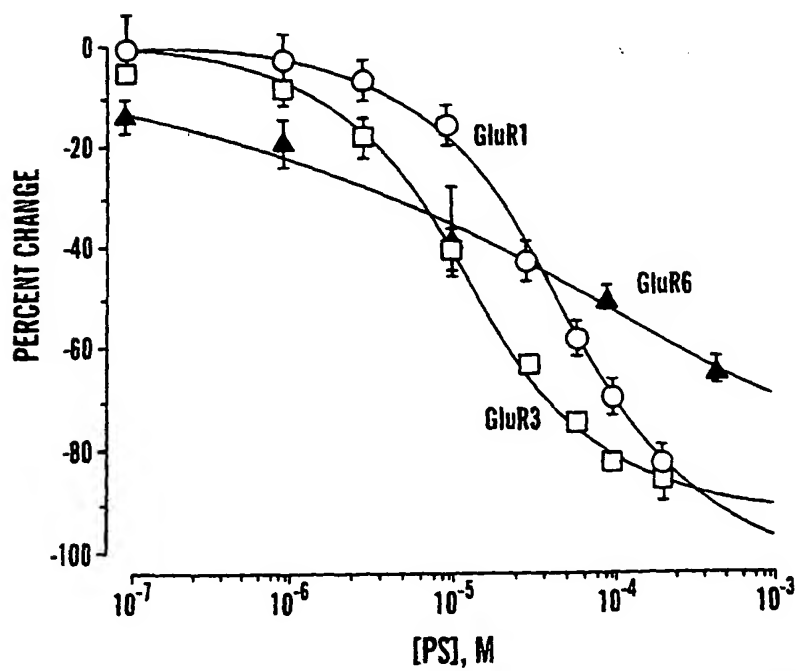


**FIG. 1**



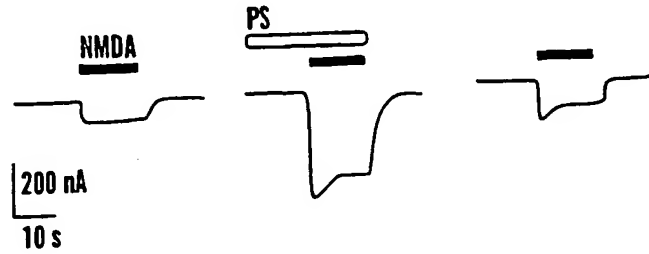


**FIG. 2E**

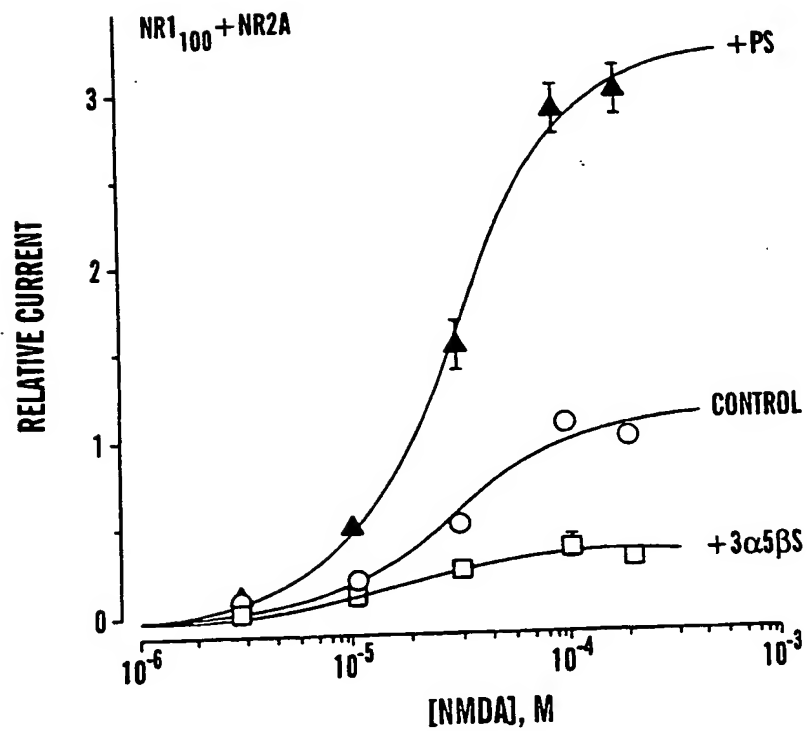
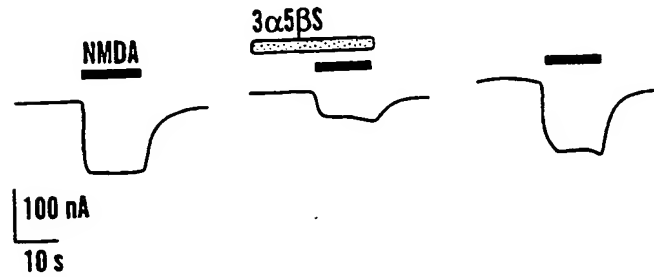


**FIG. 2F**

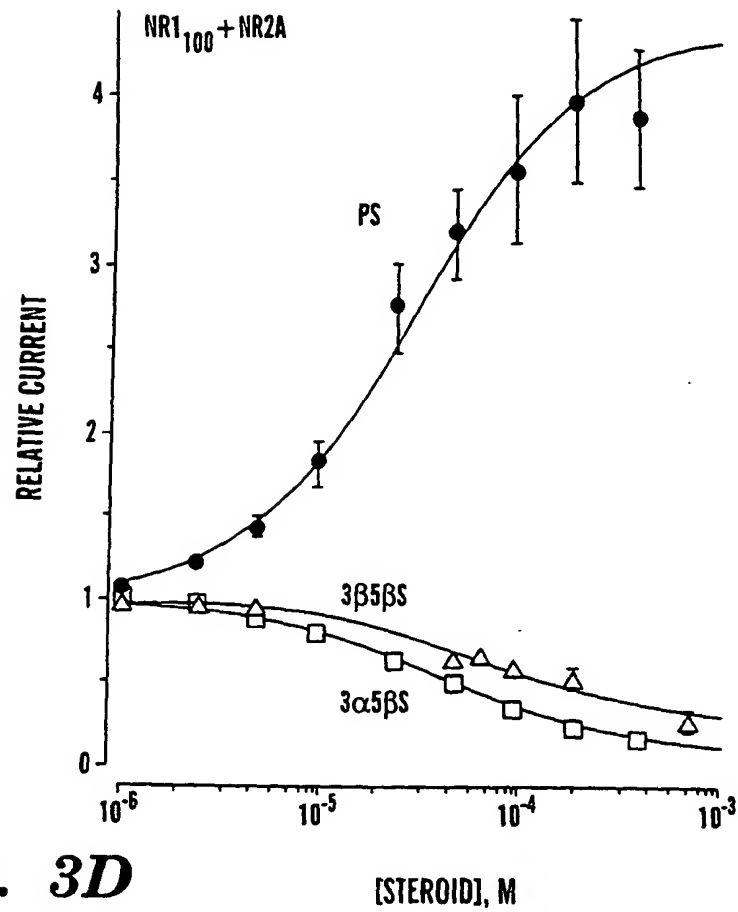
**FIG. 3A**



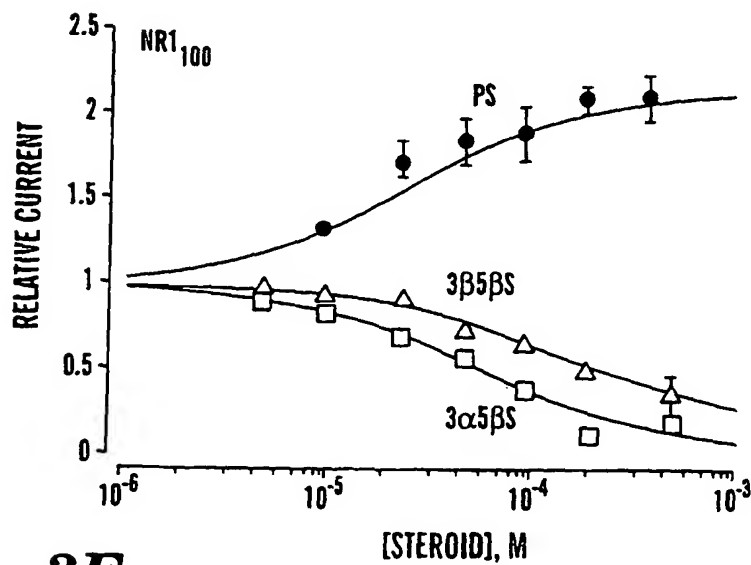
**FIG. 3B**



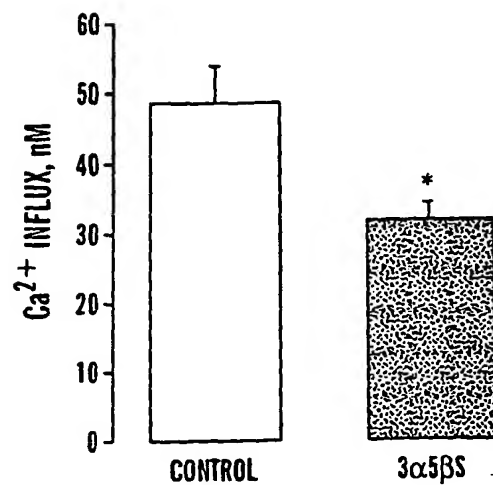
**FIG. 3C**



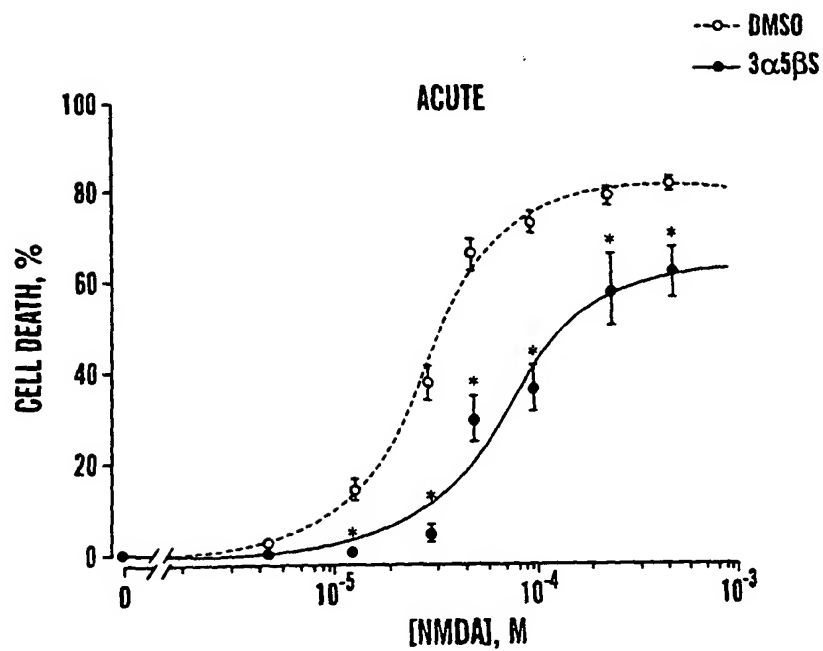
**FIG. 3D**



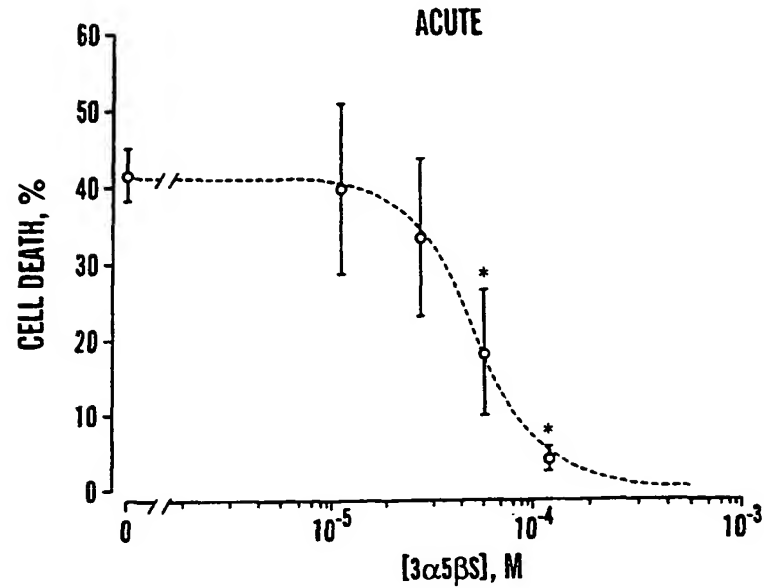
**FIG. 3E**



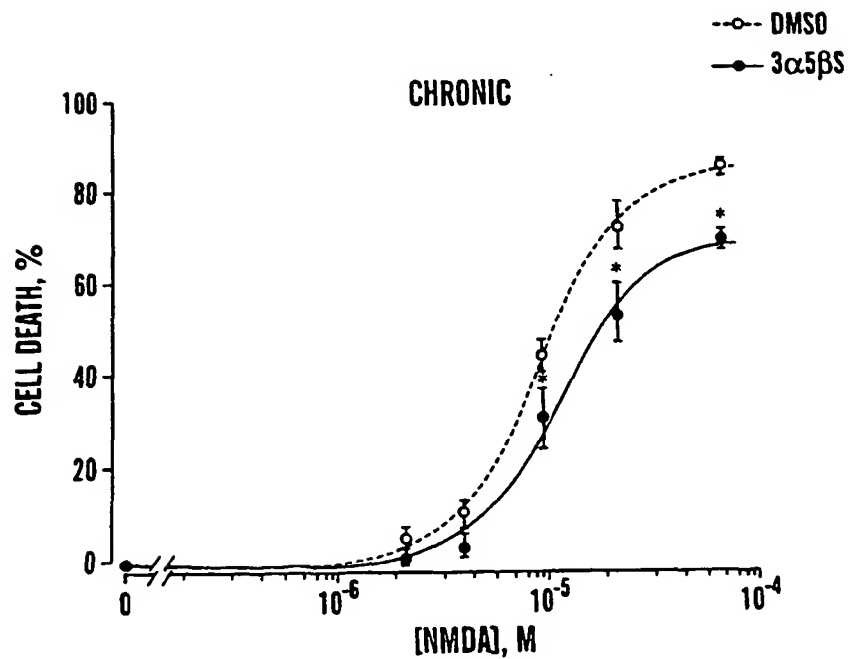
**FIG. 4A**



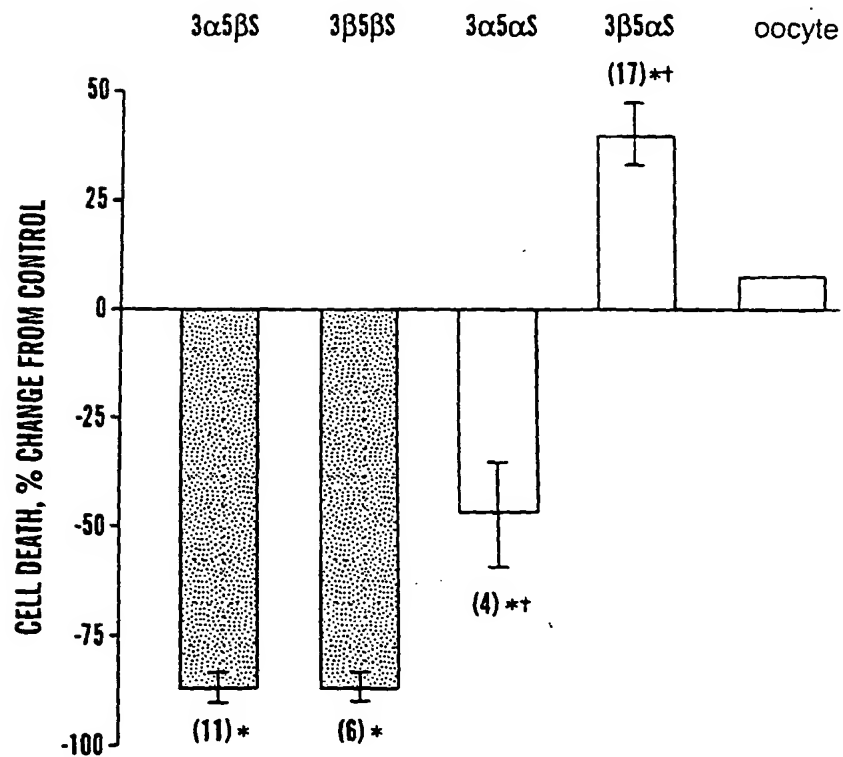
**FIG. 4B**



**FIG. 4C**

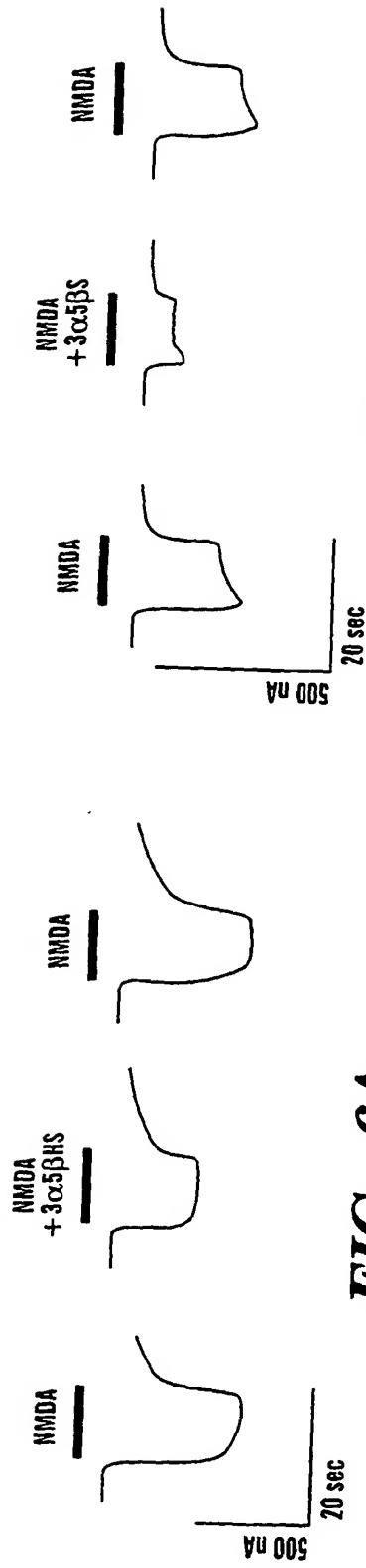


**FIG. 4D**

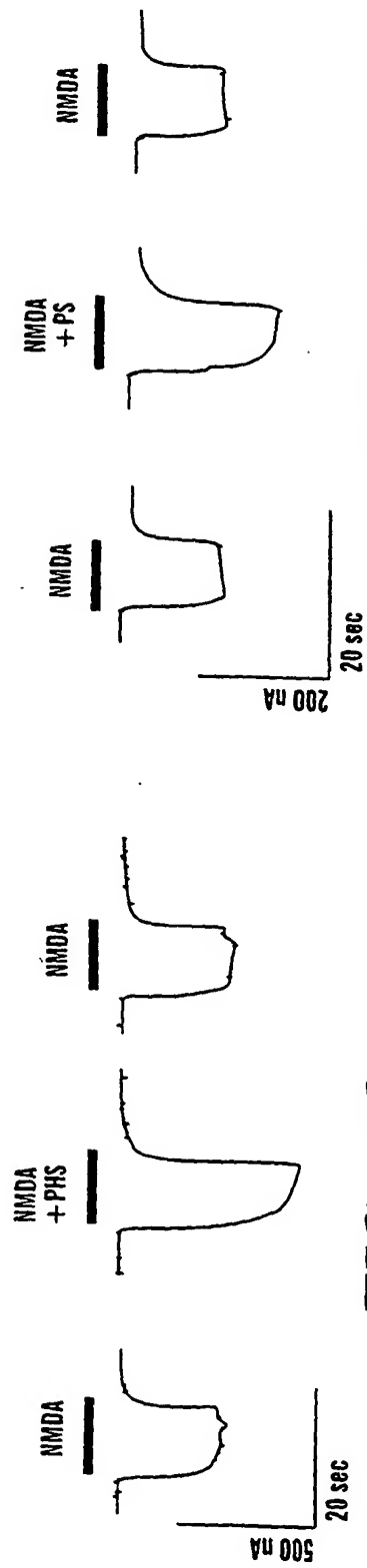


**FIG. 5**

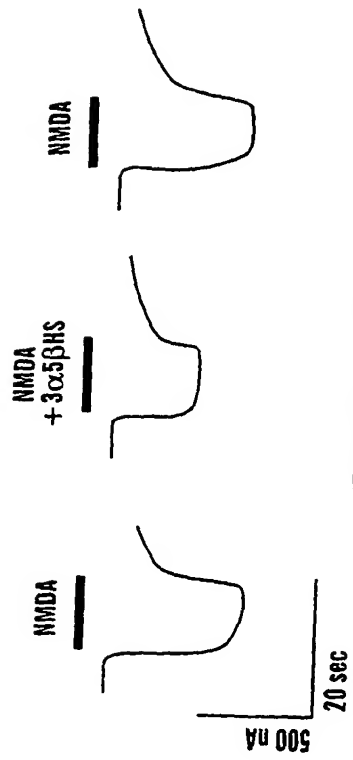




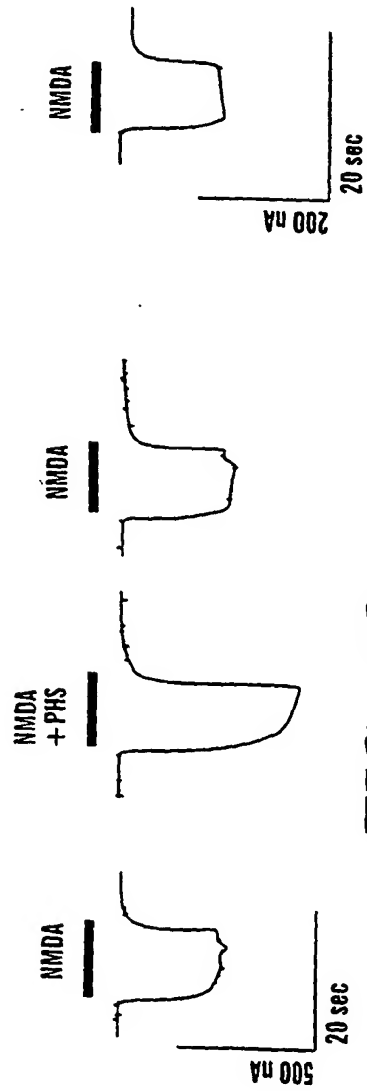
**FIG. 6A**



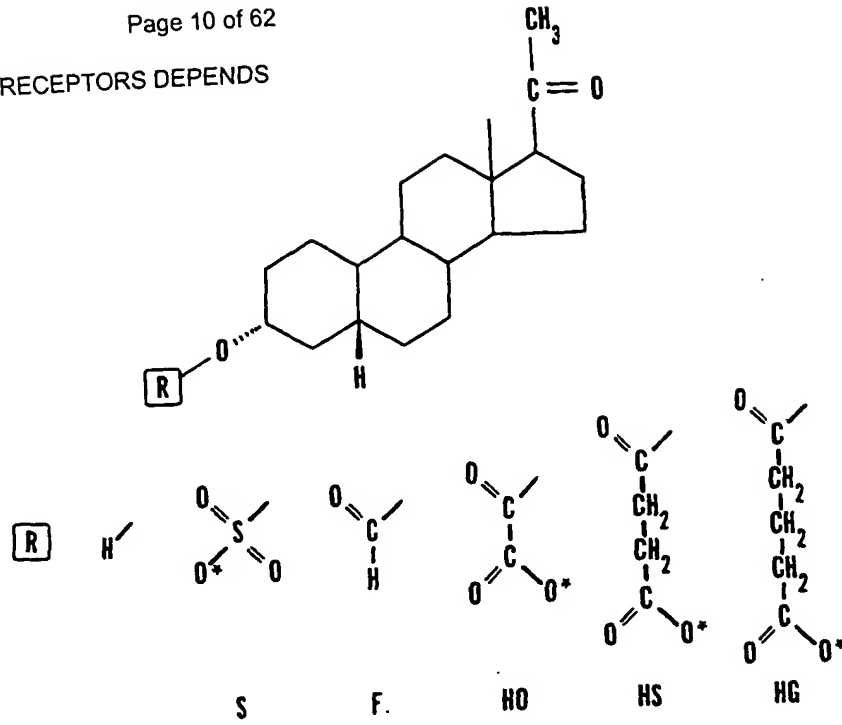
**FIG. 6B**



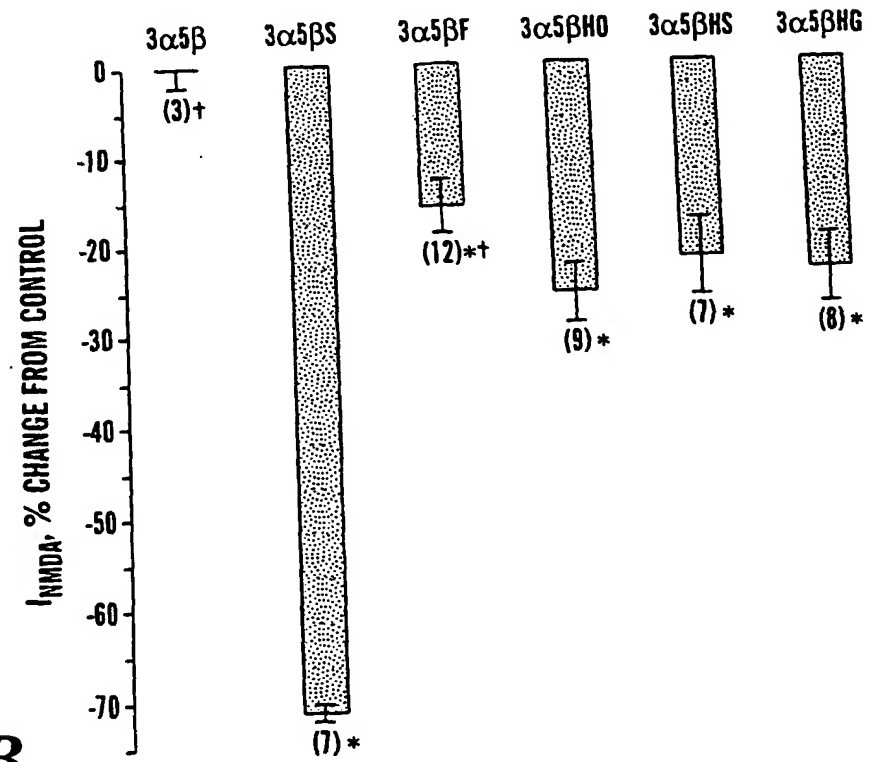
**FIG. 6C**



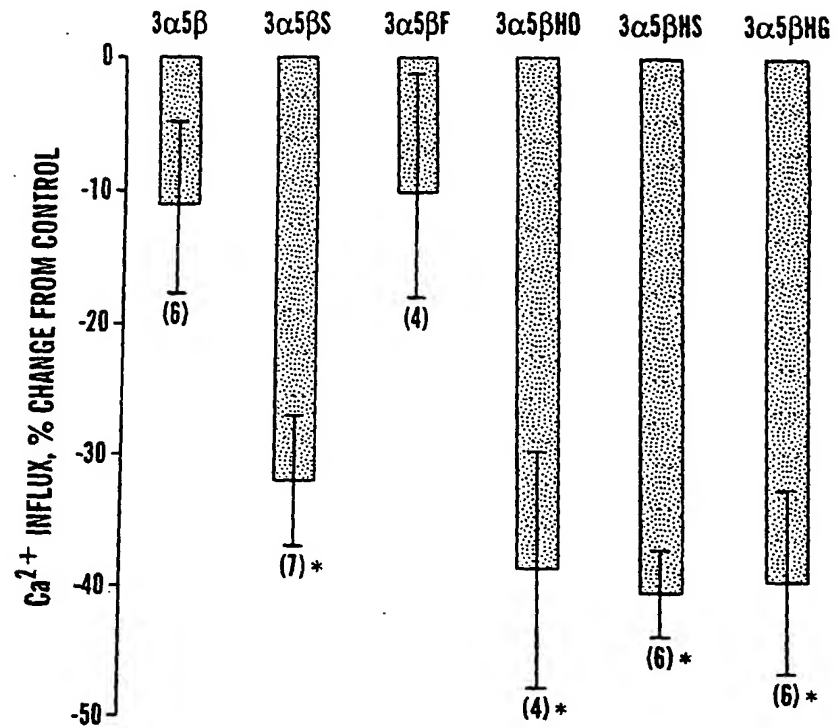
**FIG. 6D**



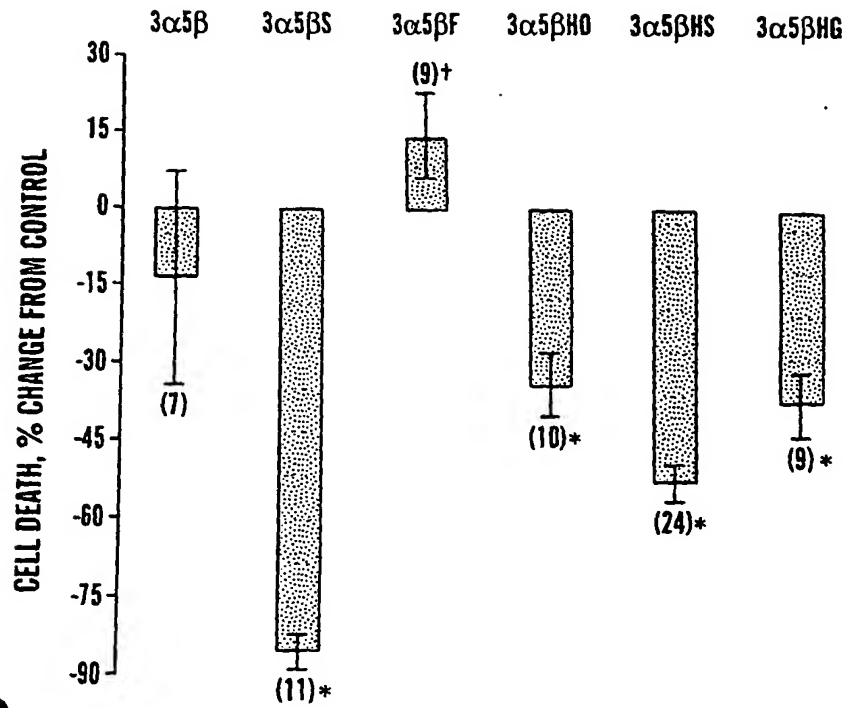
**FIG. 7A**



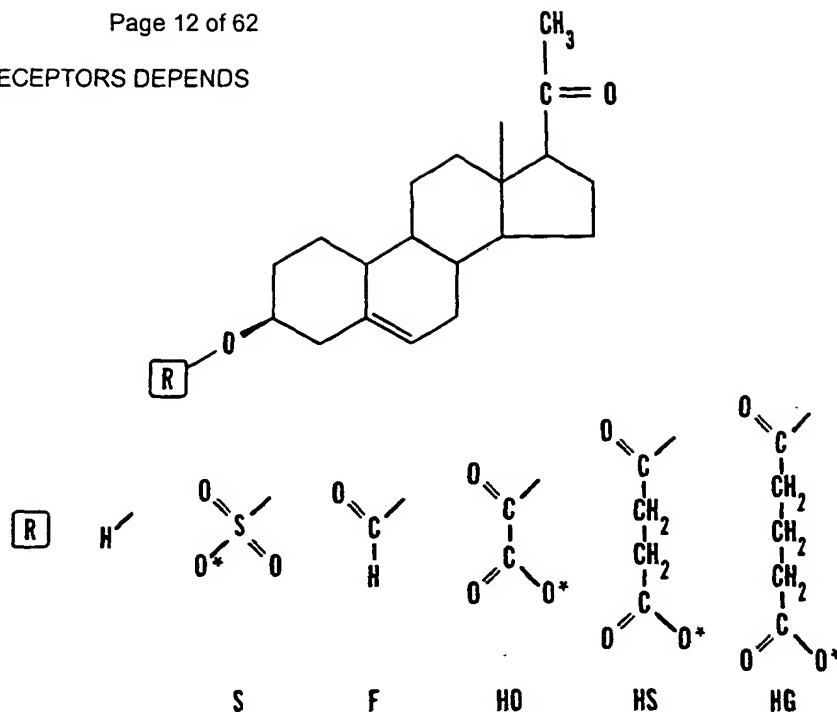
**FIG. 7B**



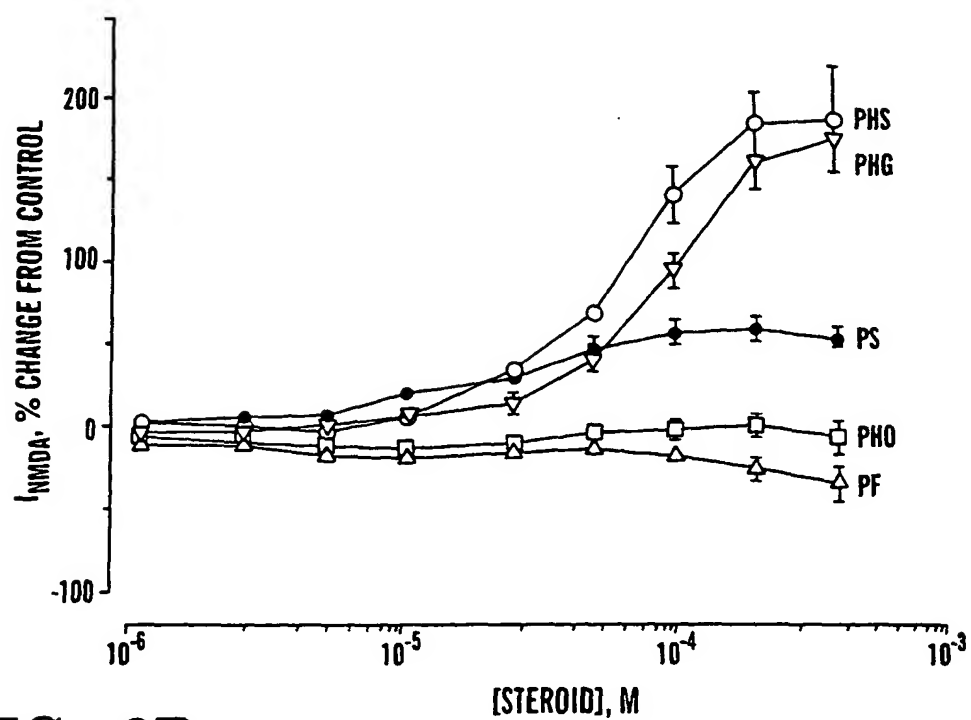
**FIG. 7C**



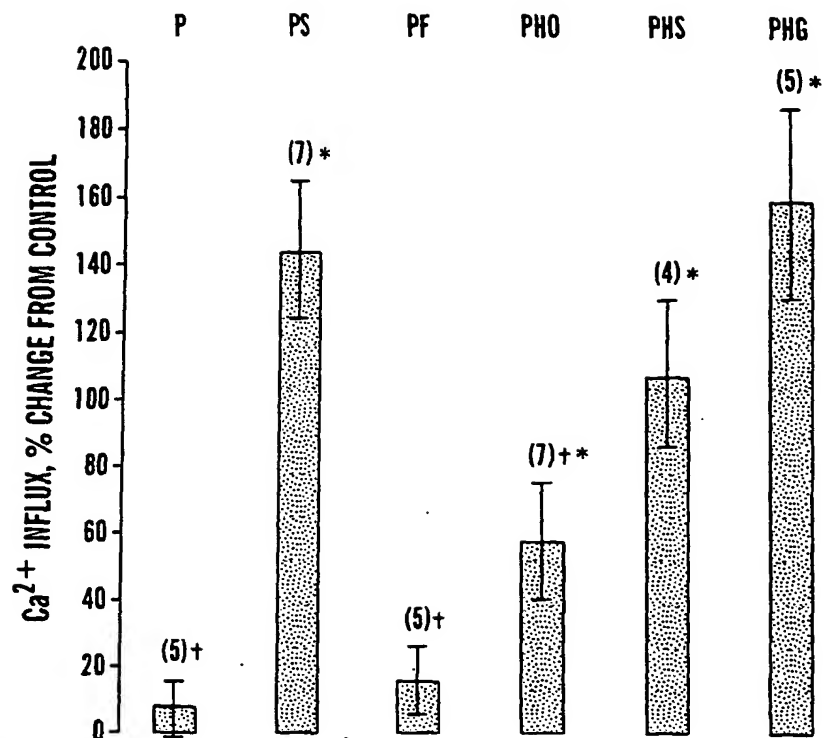
**FIG. 7D**



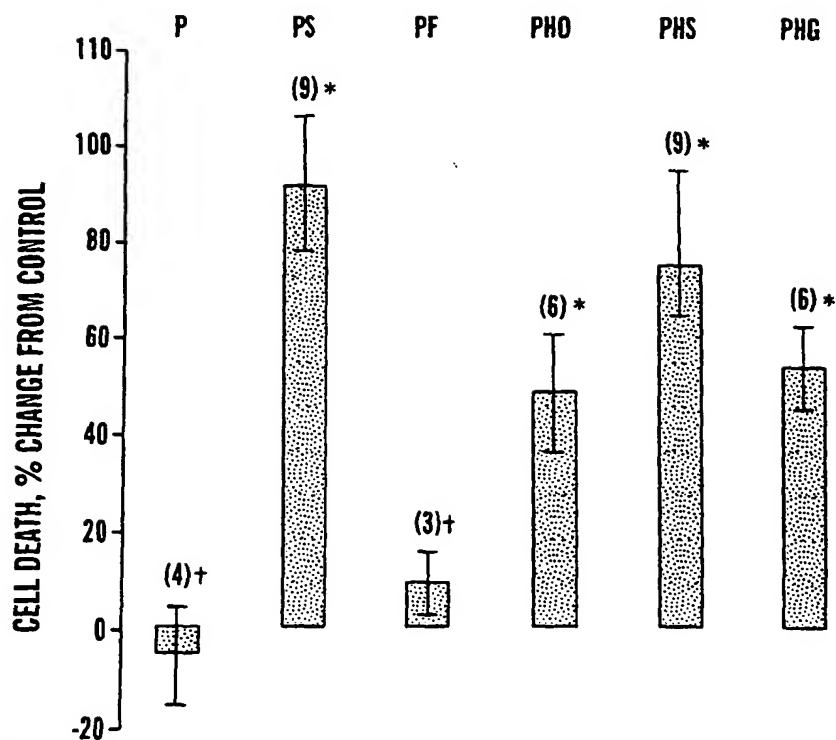
**FIG. 8A**



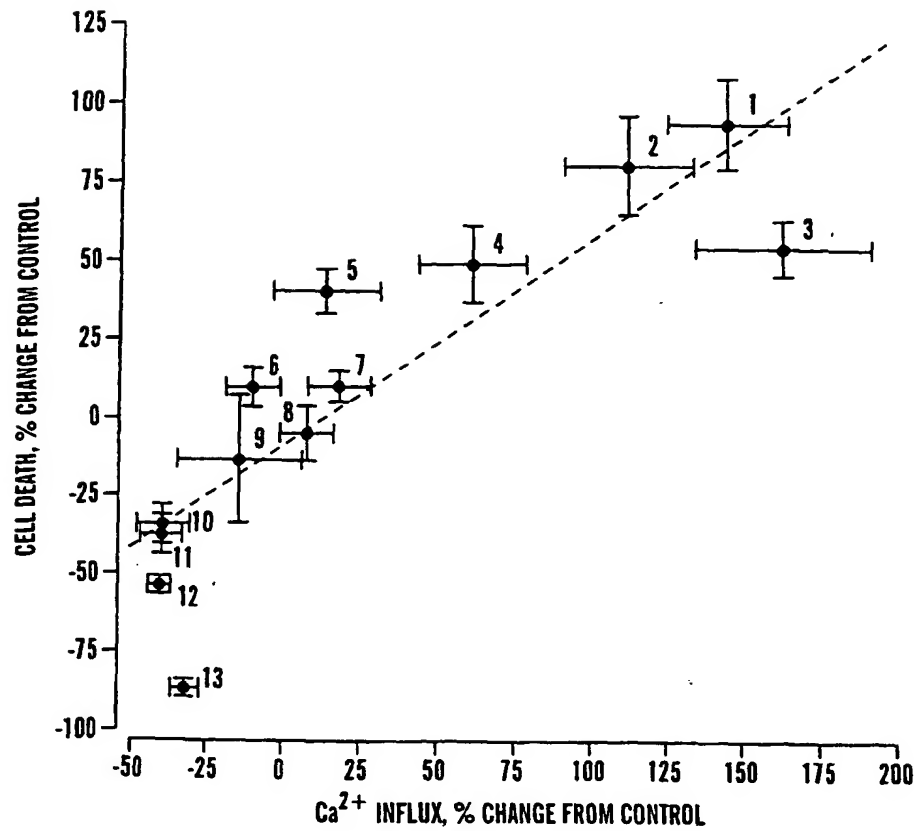
**FIG. 8B**

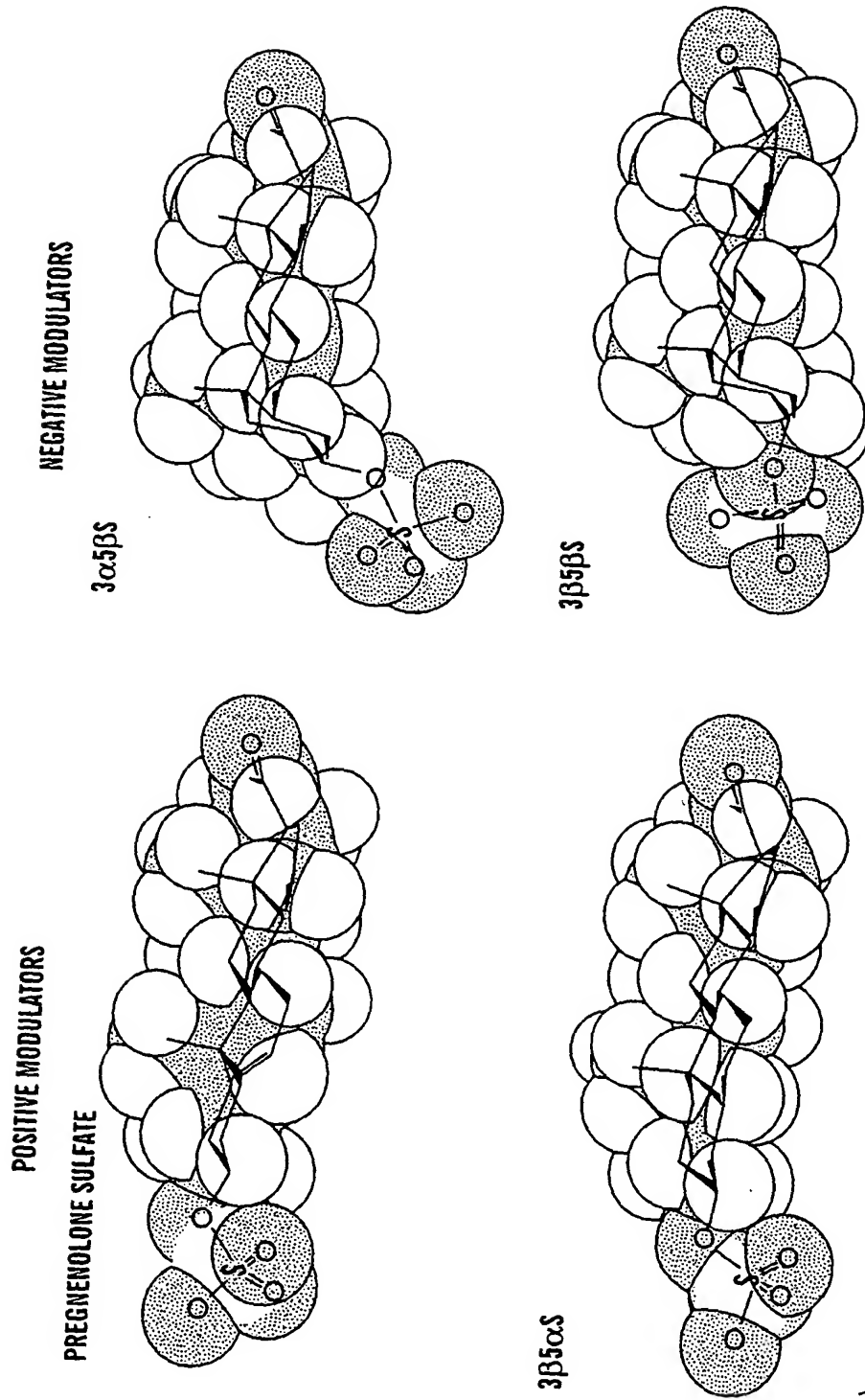


**FIG. 8C**

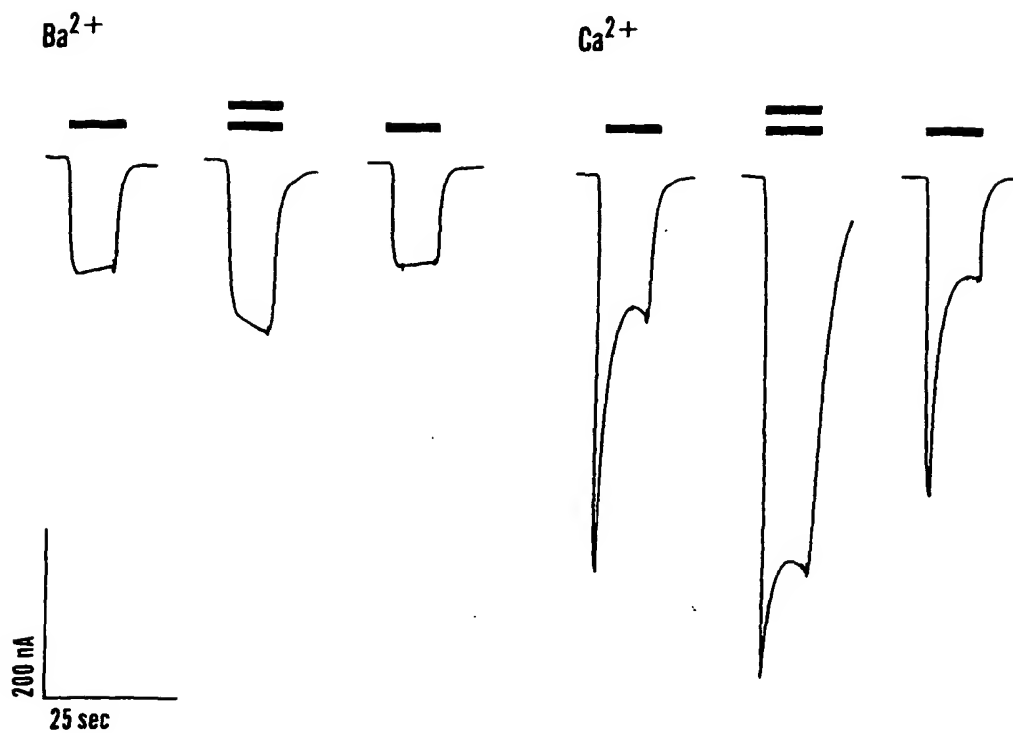


**FIG. 8D**

**FIG. 9**

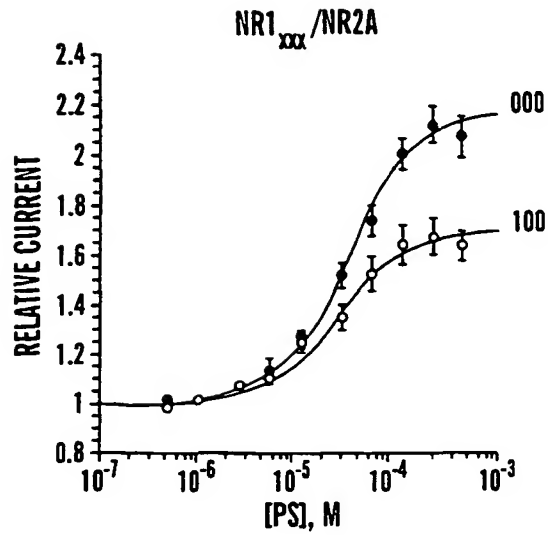


**FIG. 10**

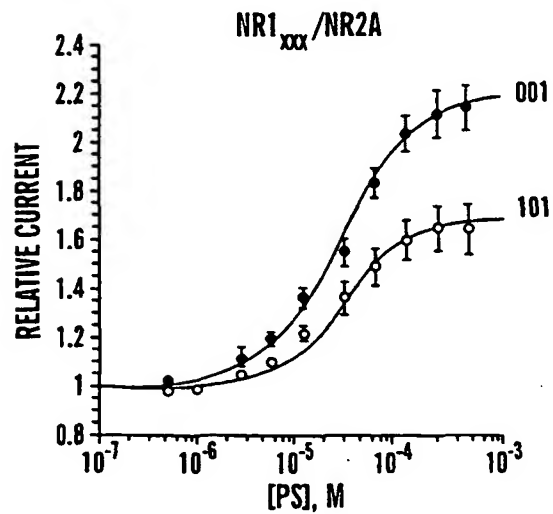


**FIG. 11**

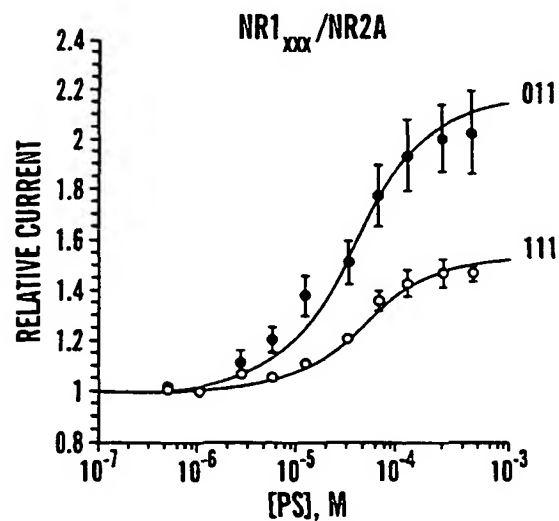




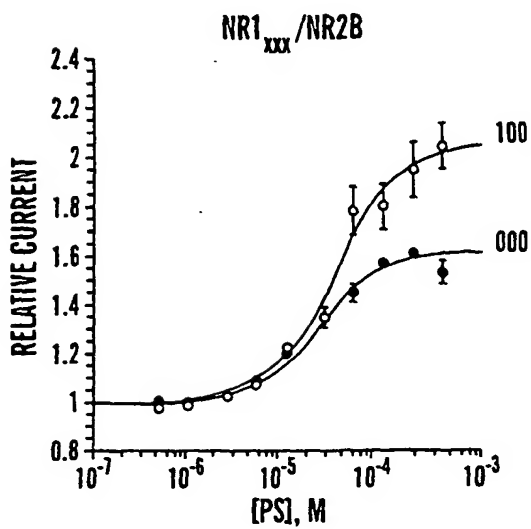
**FIG. 12A**



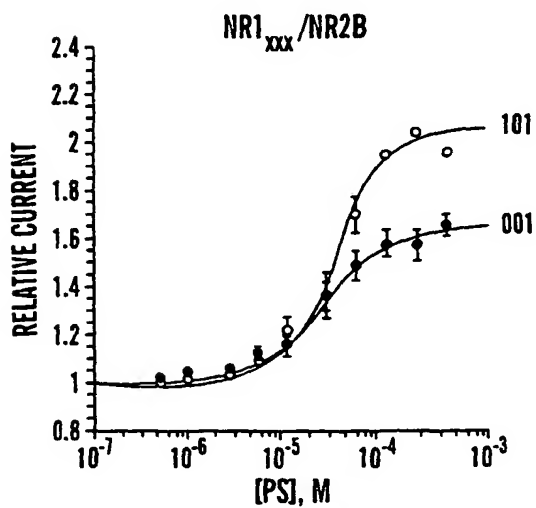
**FIG. 12B**



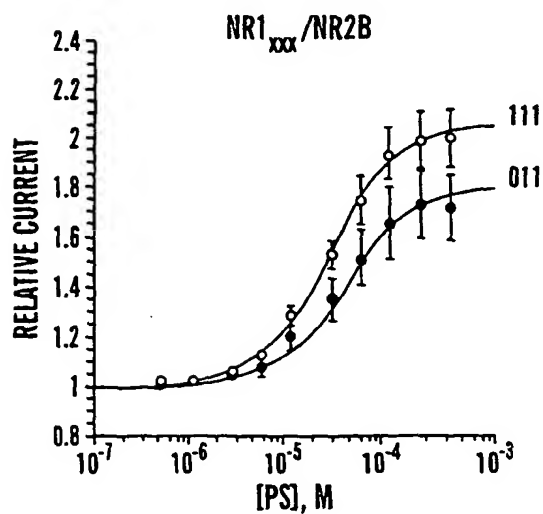
**FIG. 12C**



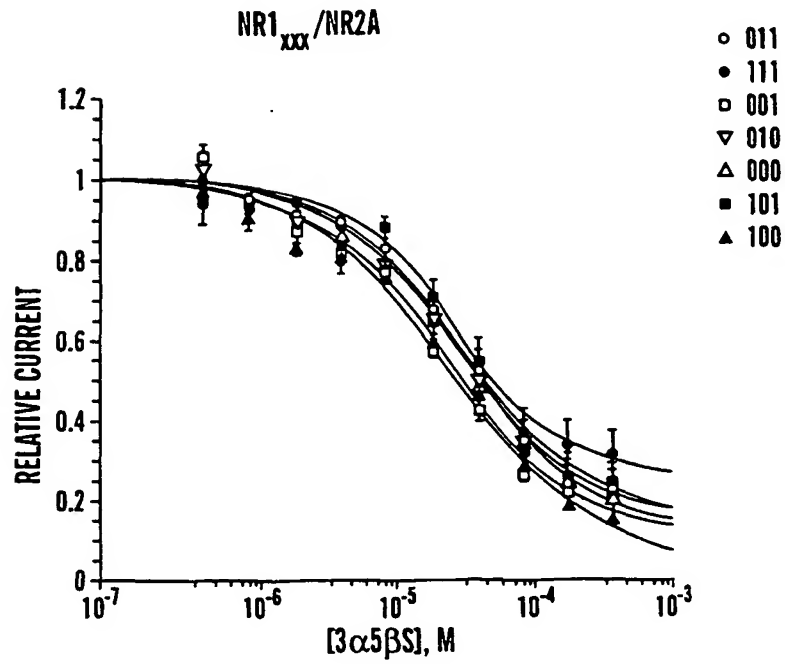
**FIG. 13A**



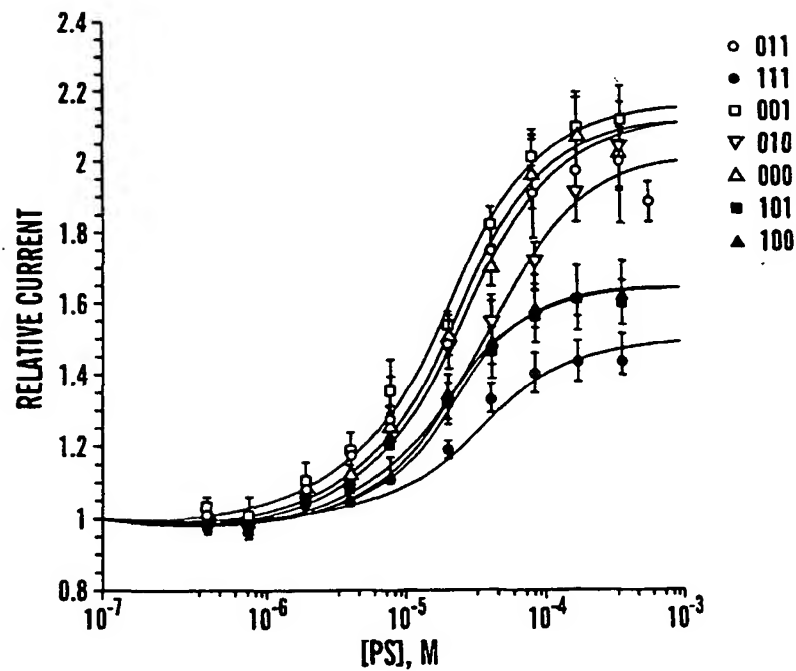
**FIG. 13B**



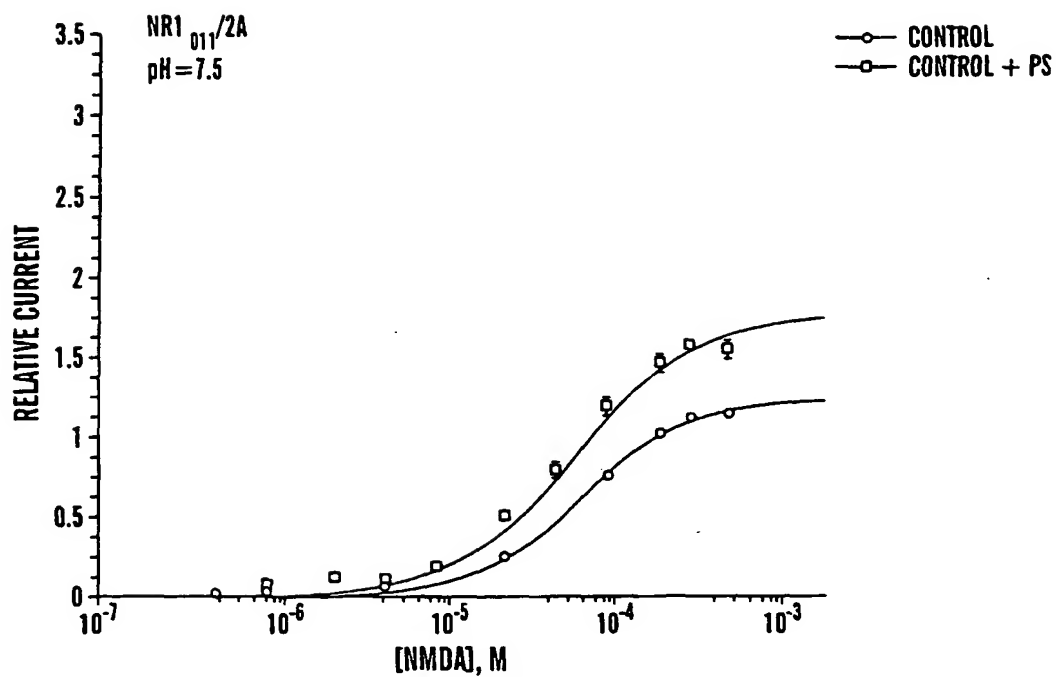
**FIG. 13C**



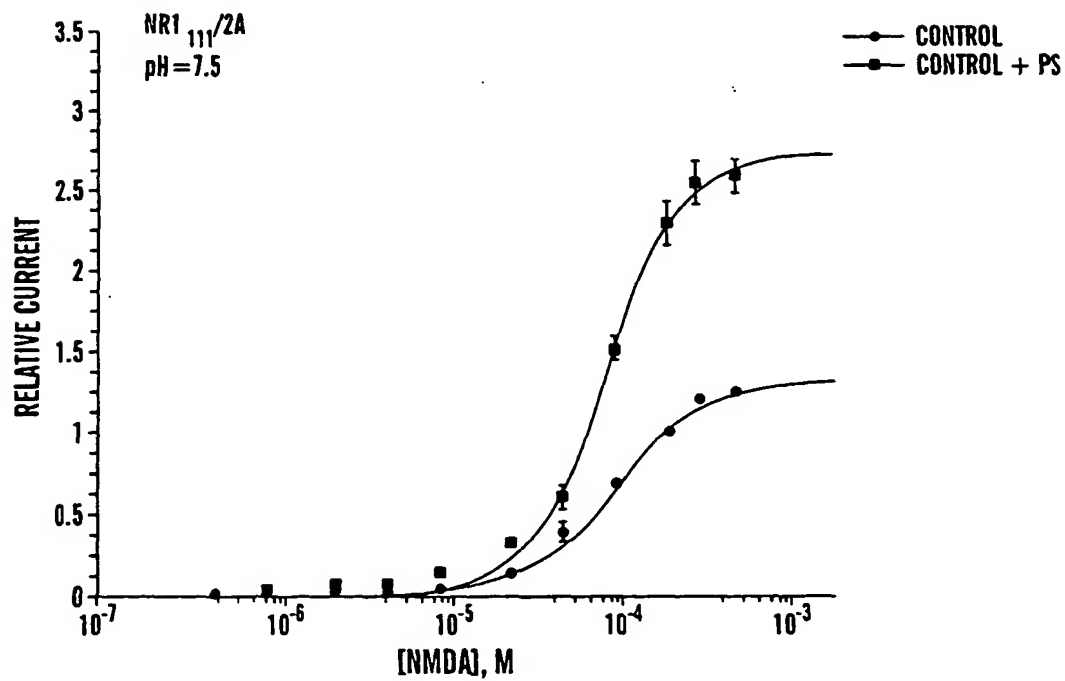
**FIG. 14A**



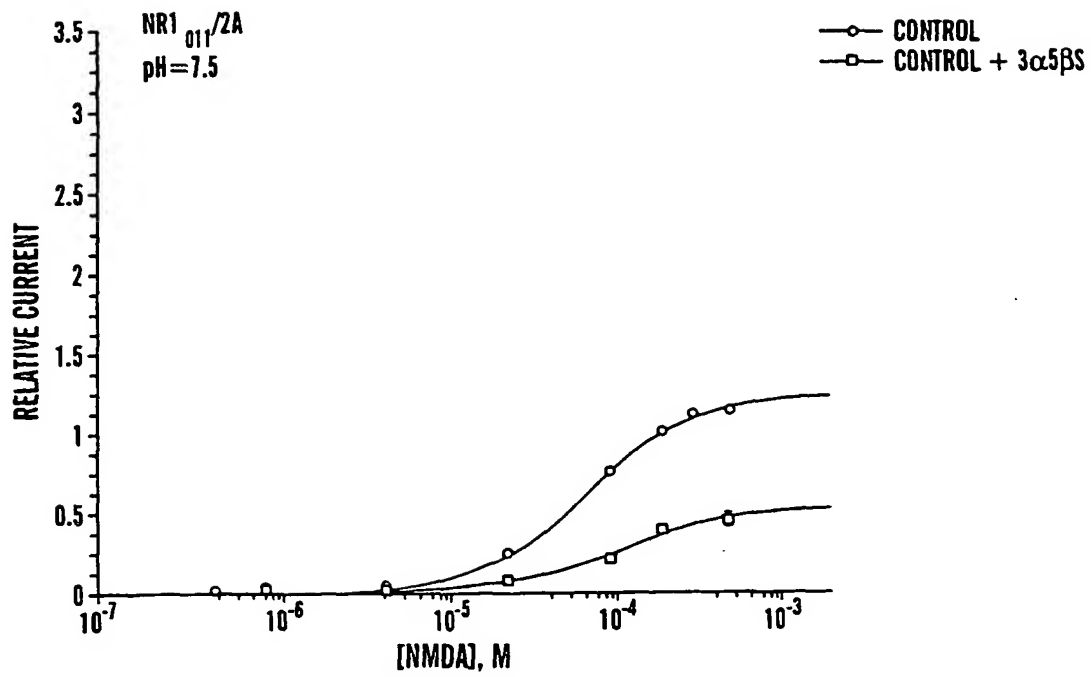
**FIG. 14B**



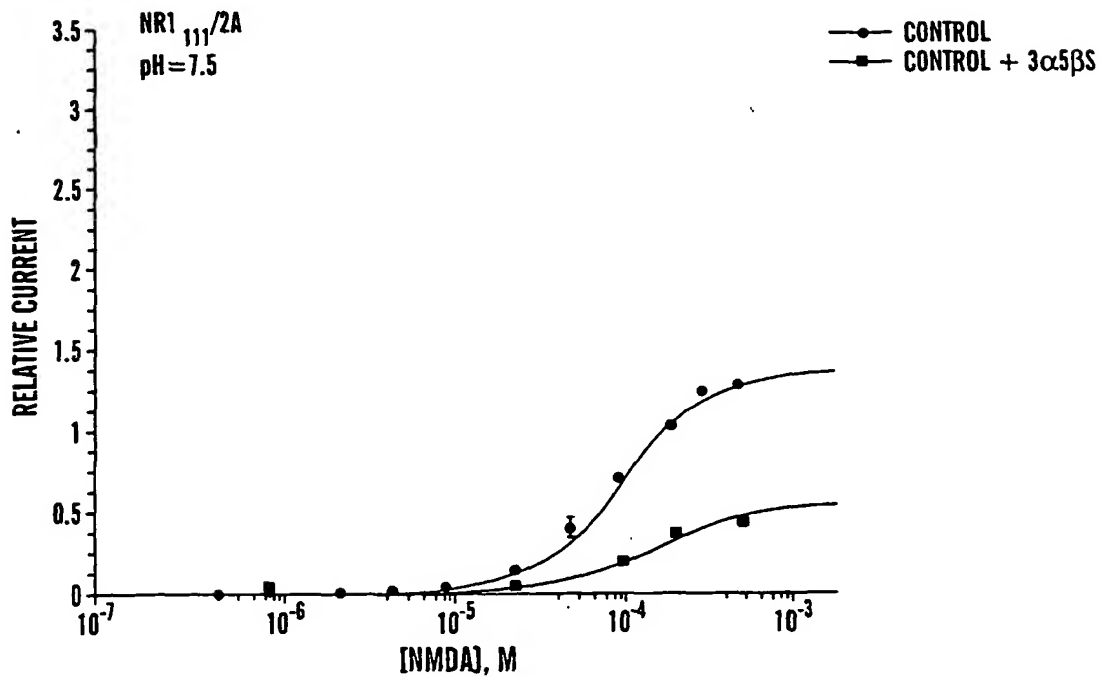
**FIG. 15A**



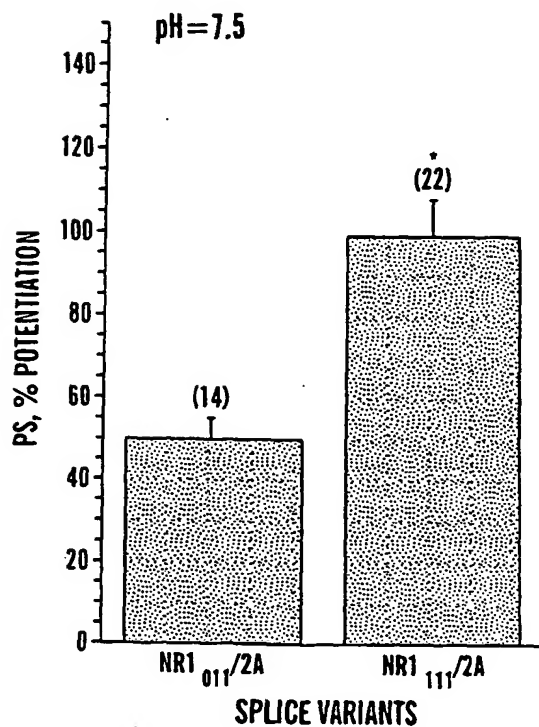
**FIG. 15B**



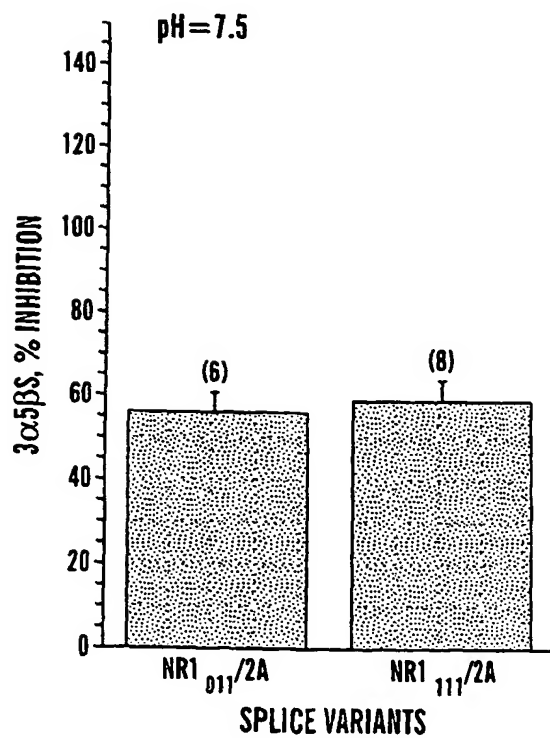
**FIG. 16A**



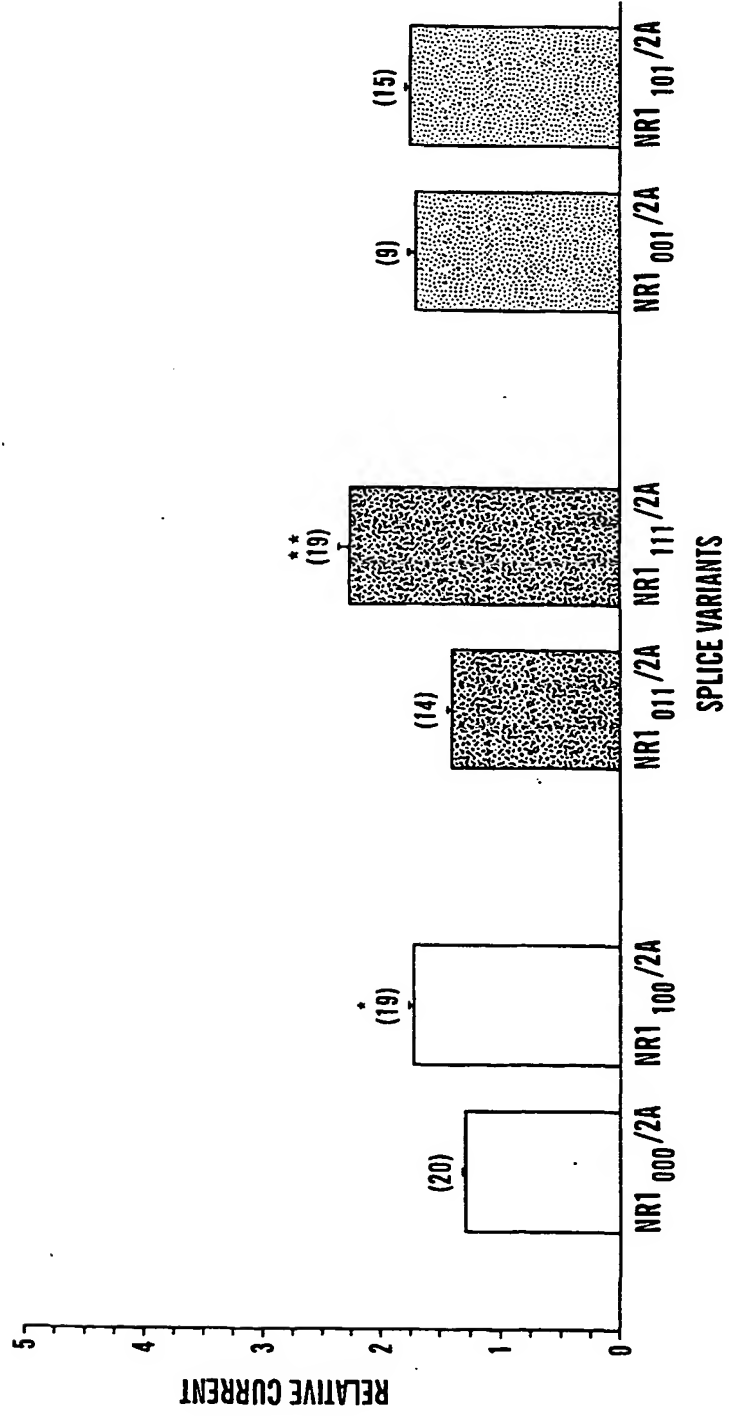
**FIG. 16B**



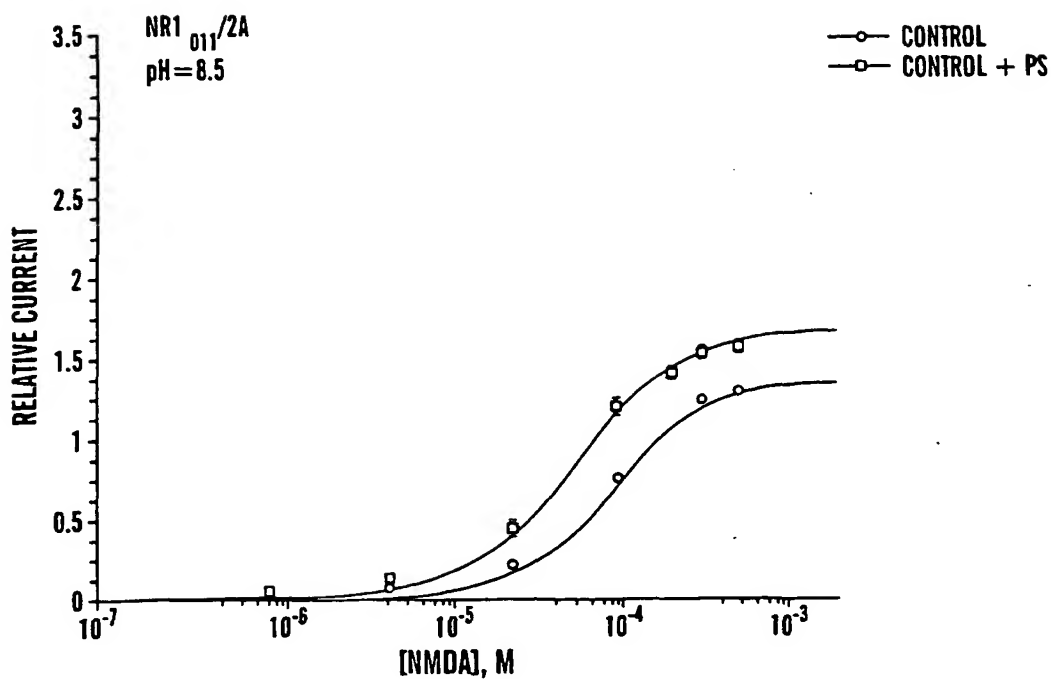
**FIG. 17A**



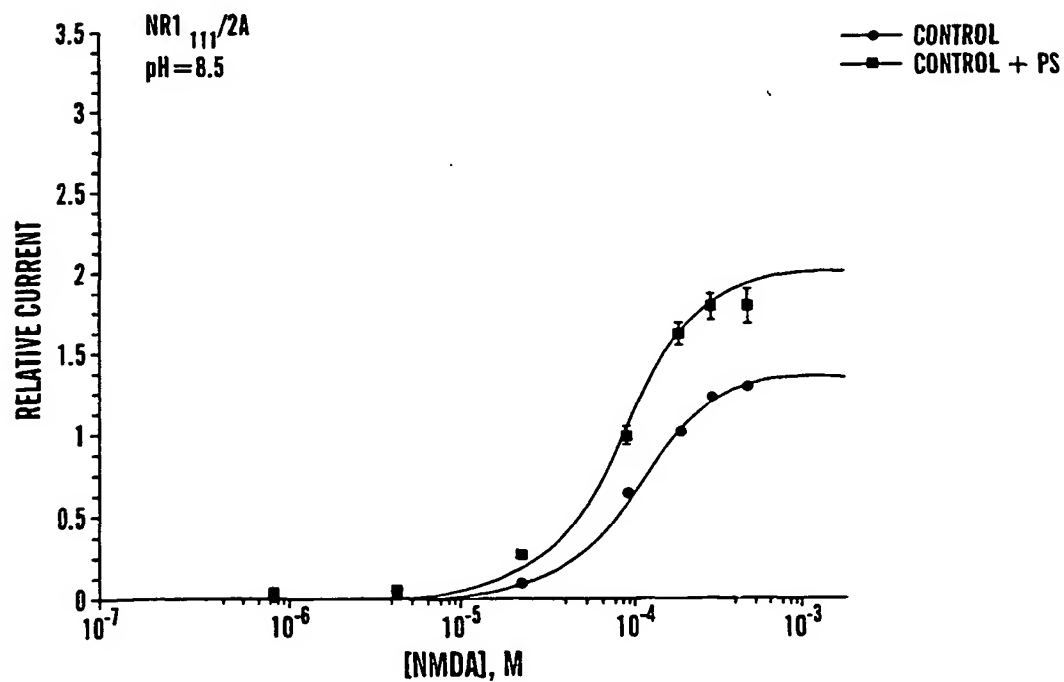
**FIG. 17B**



**FIG. 18**

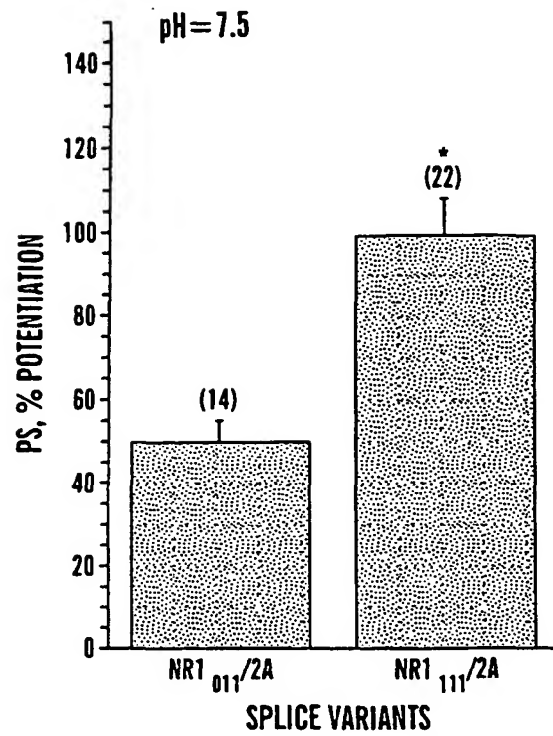


**FIG. 19A**

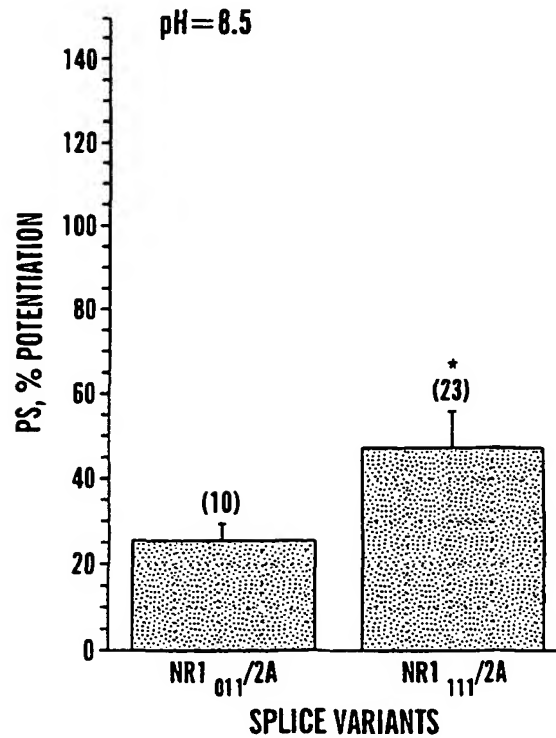


**FIG. 19B**

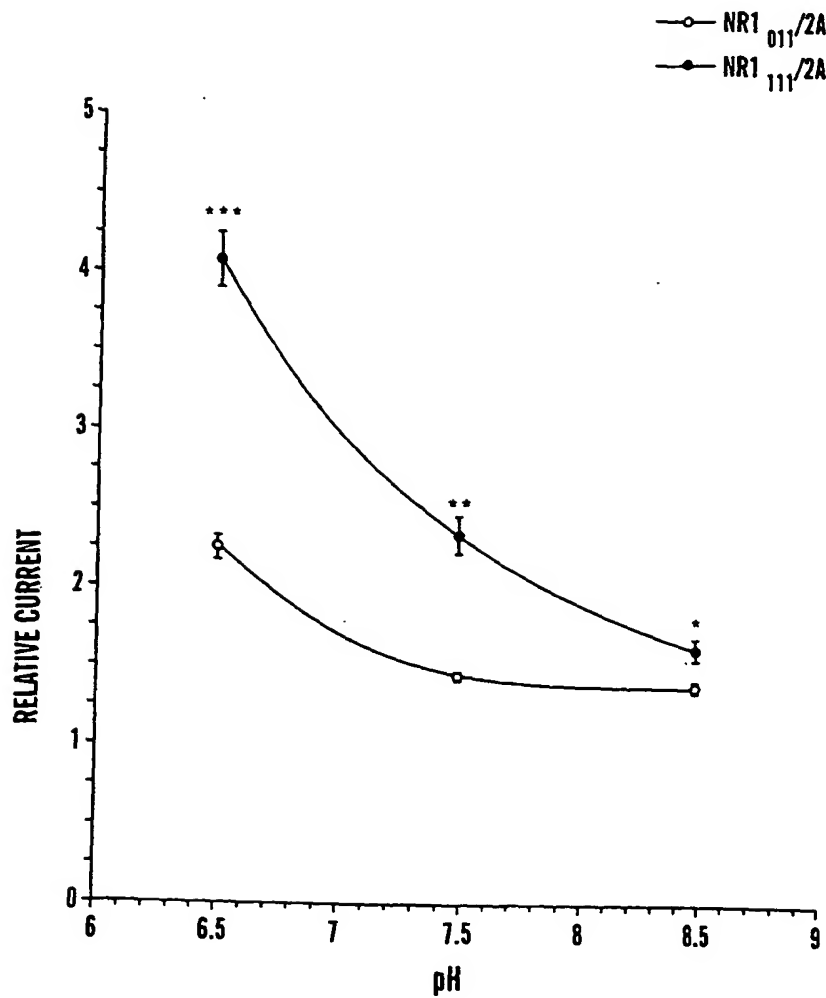


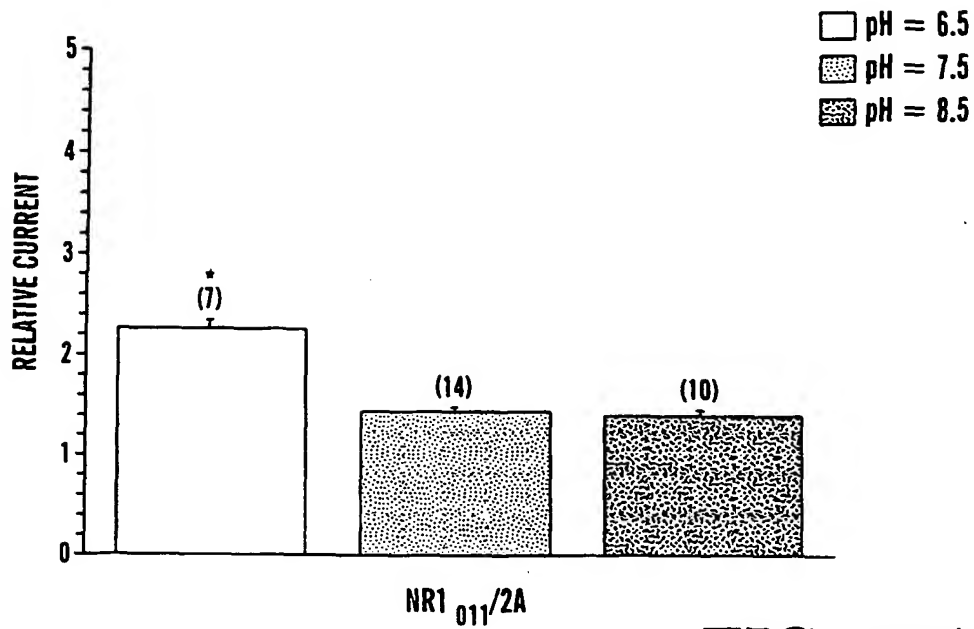
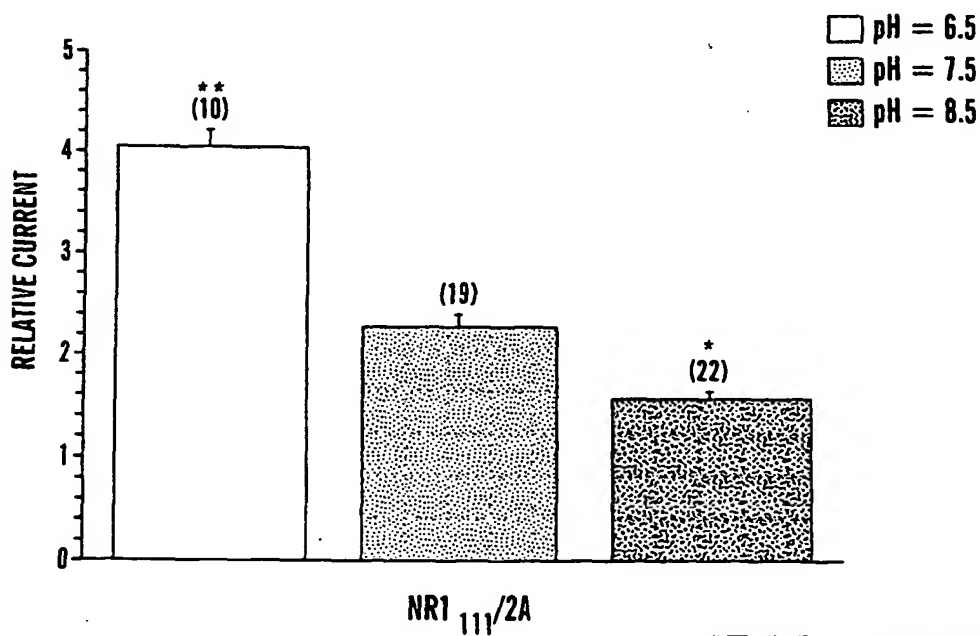


**FIG. 20A**



**FIG. 20B**

**FIG. 21**

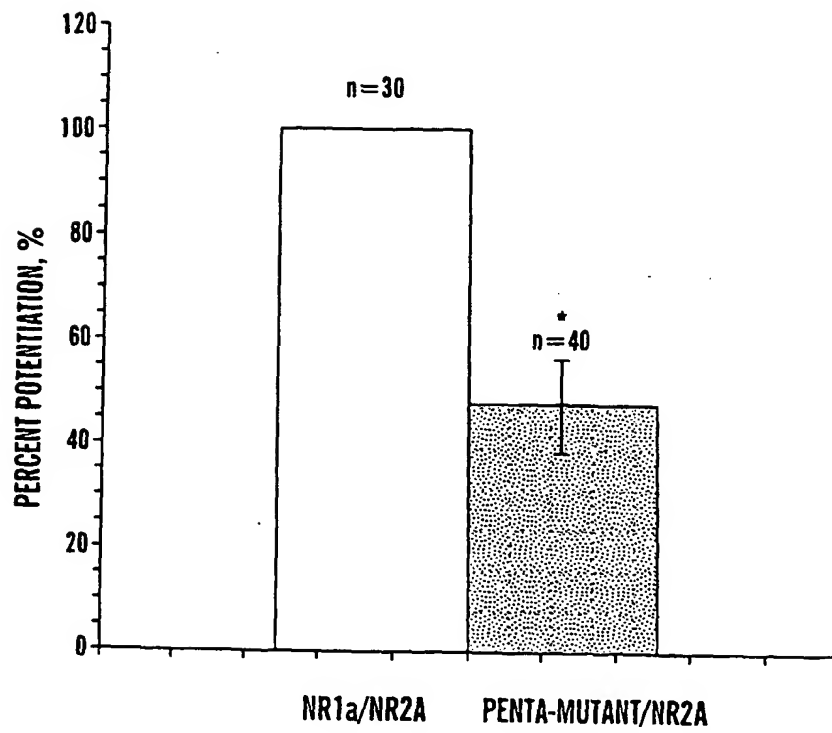
**FIG. 22A****FIG. 22B**

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EFFECT OF STEROIDS ON NMDA RECEPTORS DEPENDS  
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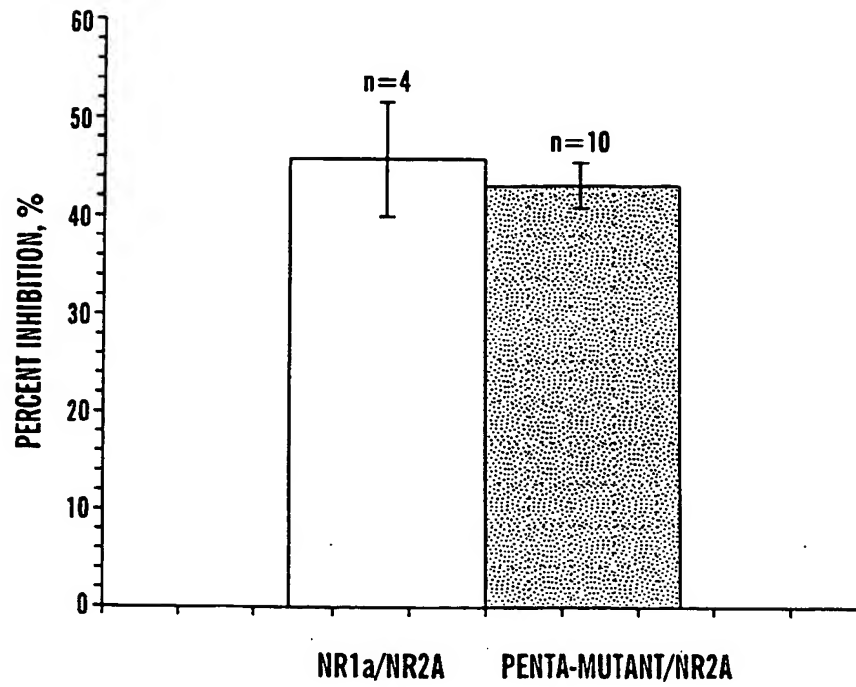
RXR- $\alpha$	ILE.AELAVEPKTETYVEANMGL.NPSSPNDPYTNIC.QAADKQLFTL	
RAR	LCQLGKYTTNSSADHRVQLDLGLWDKFS..ELATK.C..II.K....I	
PR	IN.LLM.SIEPDV.IYAGHD.N.TKPDTSSSLTSL.NQLGERQLLSV	
GCR	VS.LLE.VIEPEV.LYAGYD.S.SVPDSTWRIMTTL.NMLGGROVIAA	
ER	SALLD.A.EPPI.LYSEYD.P.TRPFSEASMMGLLTN.LADRELVHM	
NR1011	IILLVSDDHEGRAA.QKRLETLLERESKA <del>E</del> KVLQF.DP.GTKNYTAL	207
	$\Delta$ $\Delta$ $\Delta$	
RXR- $\alpha$	V.EWAKRIPH.FSELPL..DDQVILLRAGWNELLIA..SFSHR.SIA	
RAR	V.EFAKRLPG.FTGLSI..ADQITLLKAA <del>C</del> LDIILML..RICTR.YTP	
PR	V.KWSKSLPG.FRN <del>L</del> HI..DDQITLIQYSWM.SLMV.FGLGWR.SYK	
GCR	V.KWAKAIPG.FRN <del>L</del> HL..DDQMTLLQYSWM.FLMA.FALGWR.SYR	
ER	I.NWAKRVPG.FVDLTL..HDQVHLL <del>E</del> CAWLEILMI..GLVWR.SME	
NR1011	LME.ARELEARVIL <del>S</del> ASEDDAATVYRAAAM.LNMTGSGYVWL <del>V</del> GER	252
	$\Delta$ $\Delta$	
RXR- $\alpha$	VKDQ.IL.LATG.LH.VHR.N	
RAR	EQDT.MT.FSDG.LT.LNR	
PR	HVSGQMLYFAPD.LI.L...N	
GCR	QSSANLLCFAPD.LI.I...N	
ER	H.PGKLL.FAPN.LL.LDR.N	
NR1011	EISGNALRYAPDGIIGLQLIN	273

**FIG. 23**

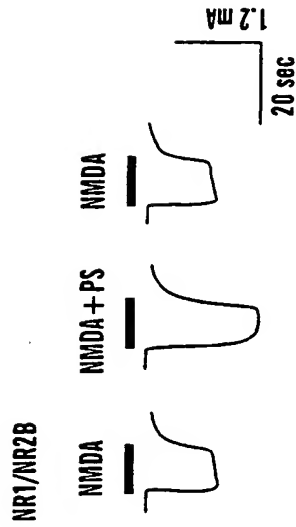


**FIG. 24**

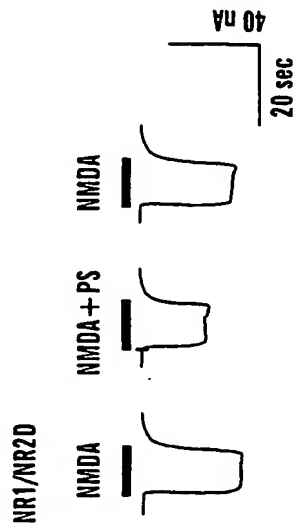
Appln No.: Not Yet Assigned  
Applicant(s): Farb et al.  
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ON SUBUNIT COMPOSITION



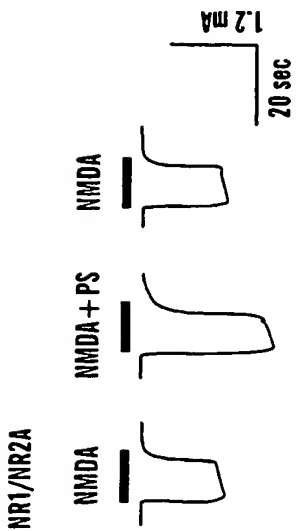
***FIG. 25***



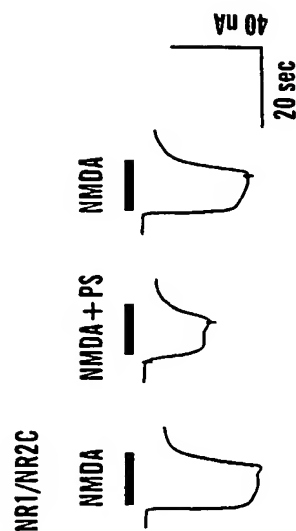
**FIG. 26B**



**FIG. 26D**



**FIG. 26A**



**FIG. 26C**

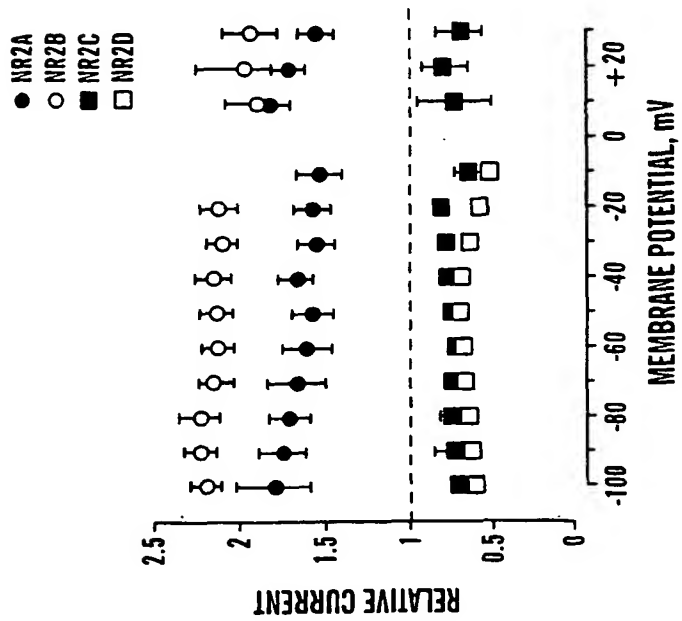


FIG. 26F

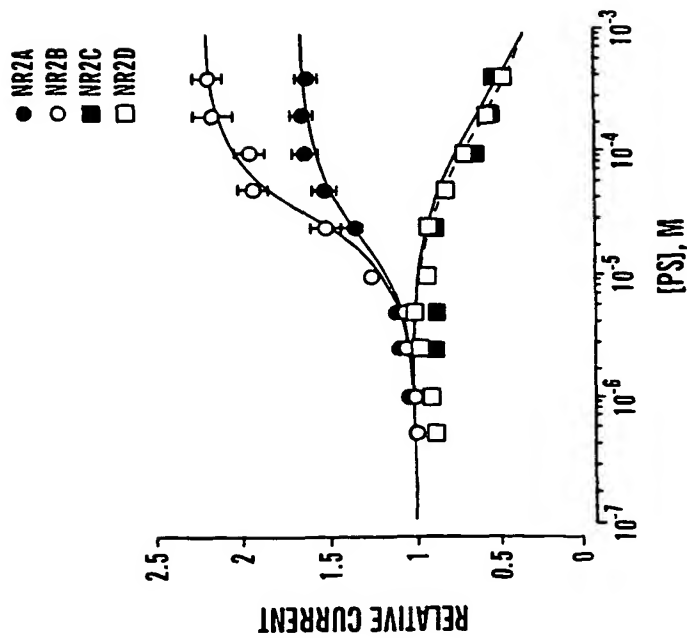


FIG. 26E



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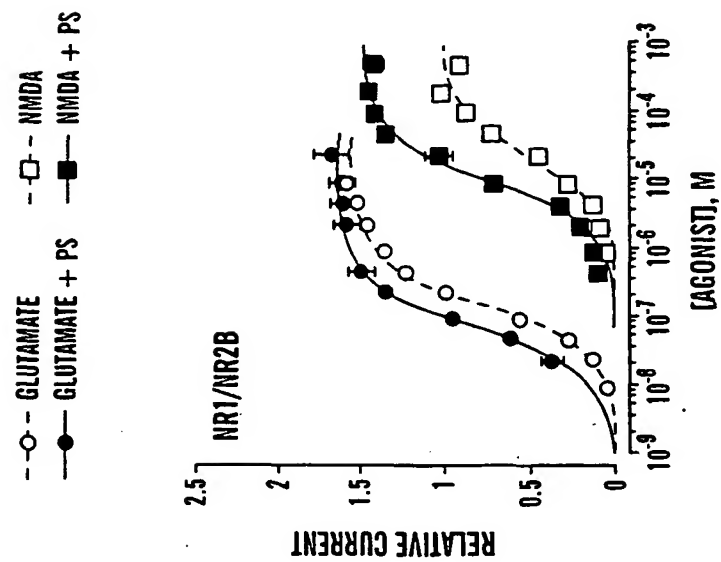


FIG. 27B

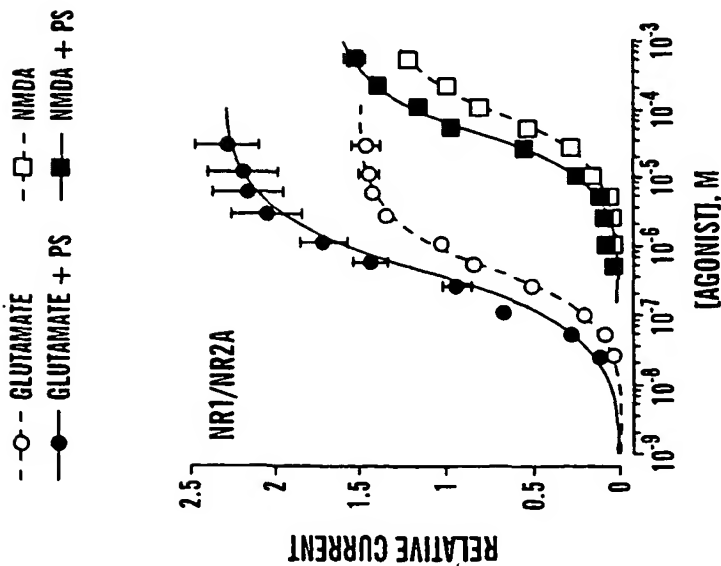


FIG. 27A

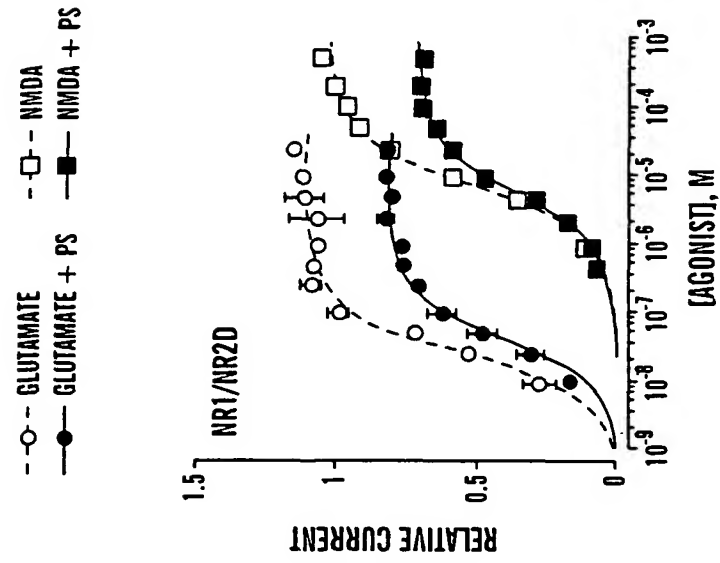


FIG. 27C

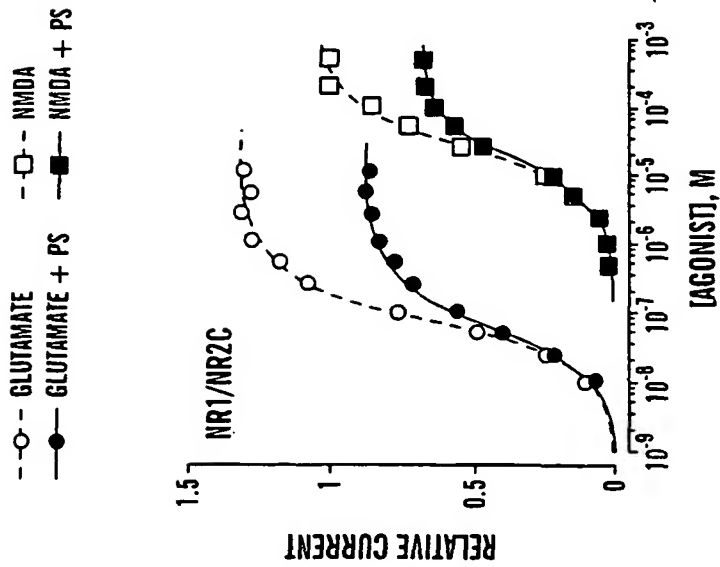


FIG. 27D

EFFECT OF STEROIDS ON NMDA RECEPTORS DEPENDS  
ON SUBUNIT COMPOSITION

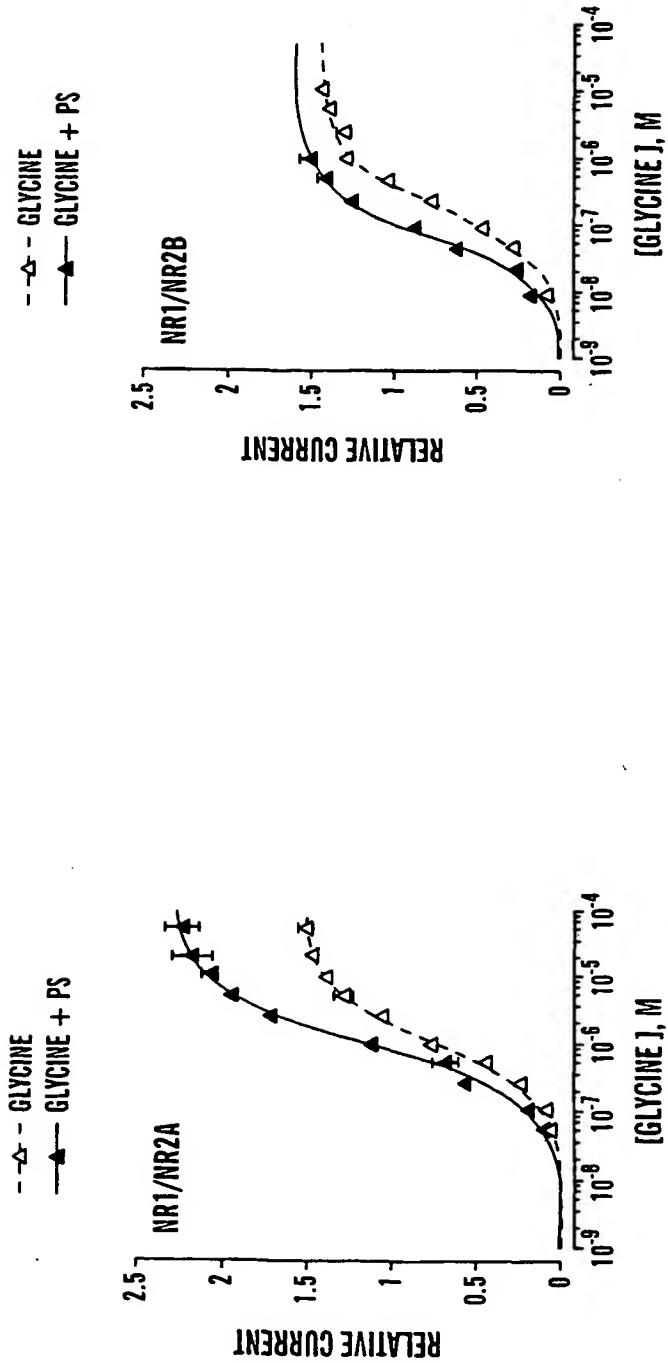


FIG. 28A

FIG. 28B

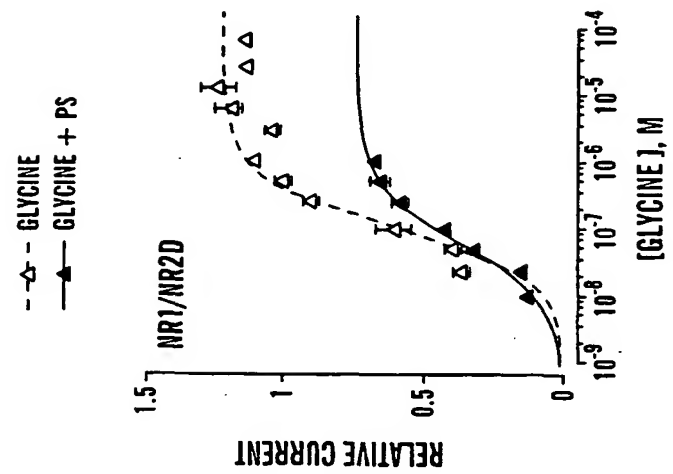


FIG. 28D

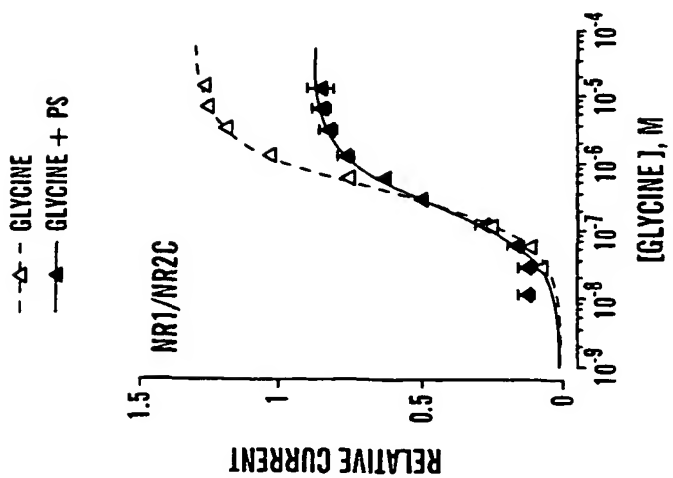


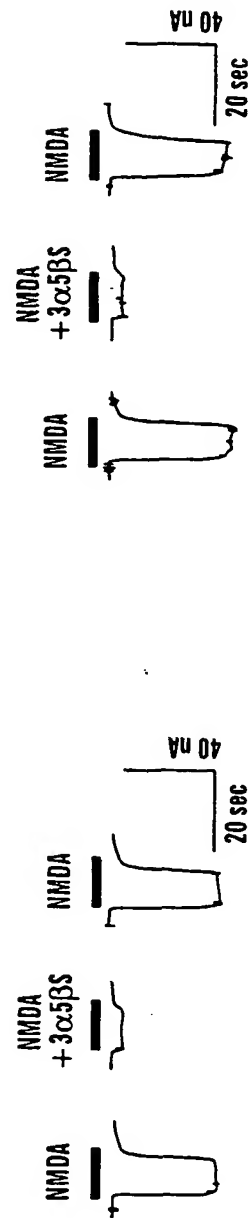
FIG. 28C

EFFECT OF STEROIDS ON NMDA RECEPTORS DEPENDS  
ON SUBUNIT COMPOSITION



**FIG. 29A**

**FIG. 29B**



**FIG. 29C**

**FIG. 29D**

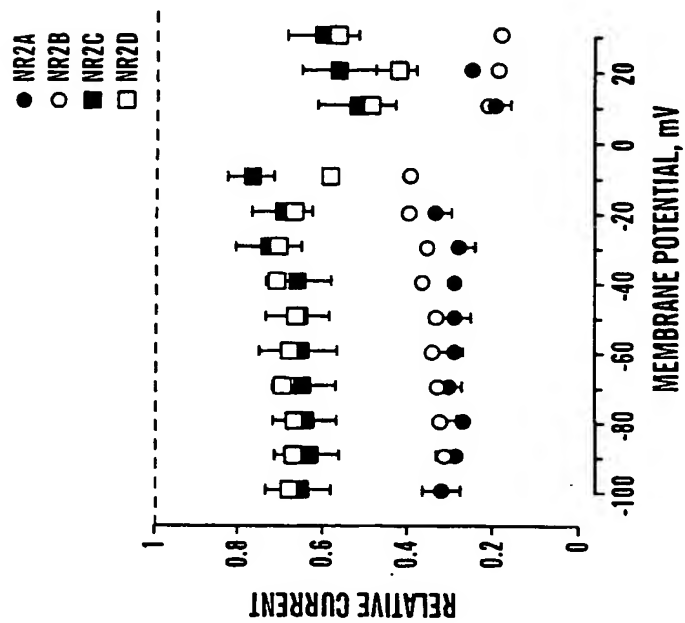


FIG. 29F

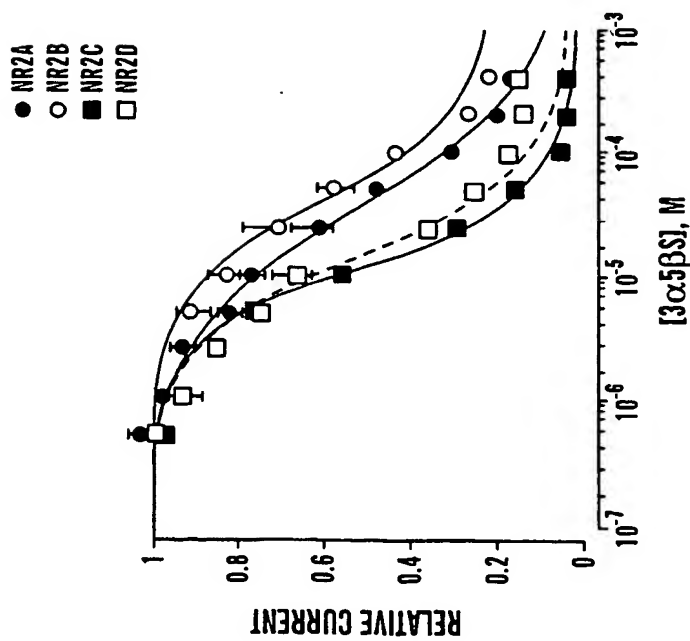


FIG. 29E

EFFECT OF STEROIDS ON NMDA RECEPTORS DEPENDS  
ON SUBUNIT COMPOSITION

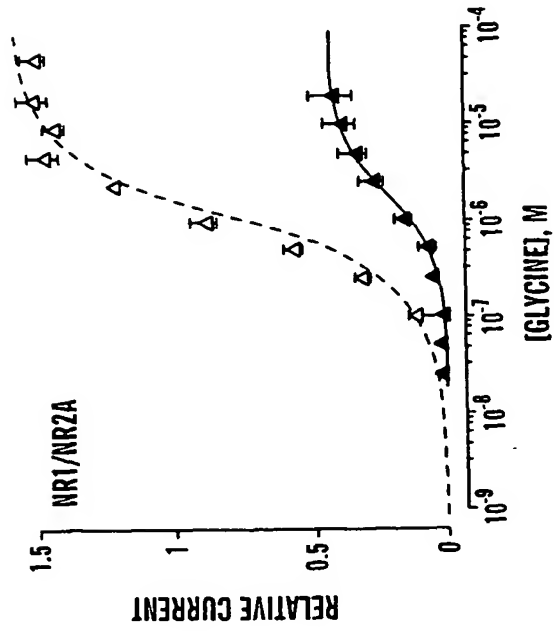


FIG. 29H

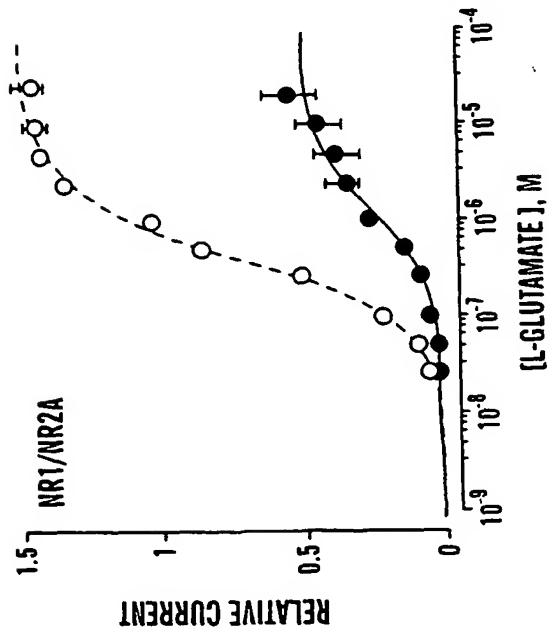
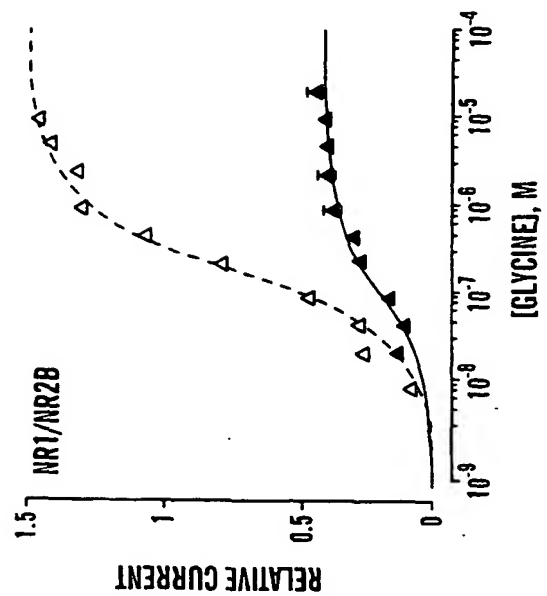


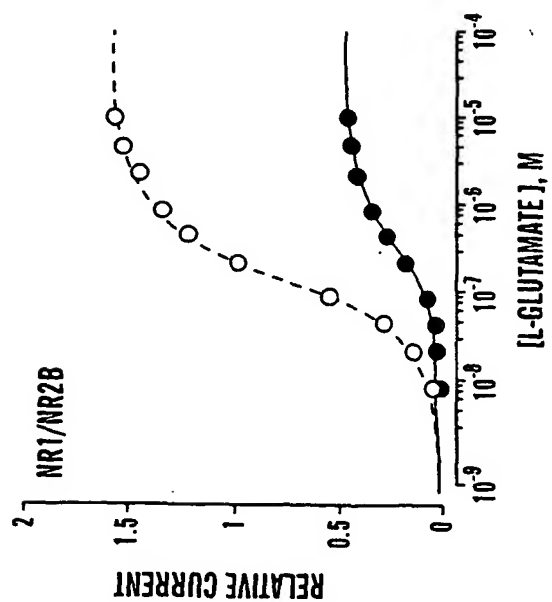
FIG. 29G

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ON SUBUNIT COMPOSITION



**FIG. 29J**

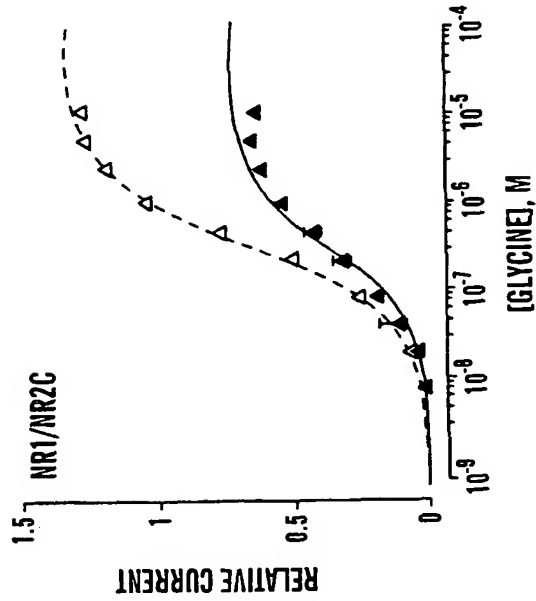


**FIG. 29I**

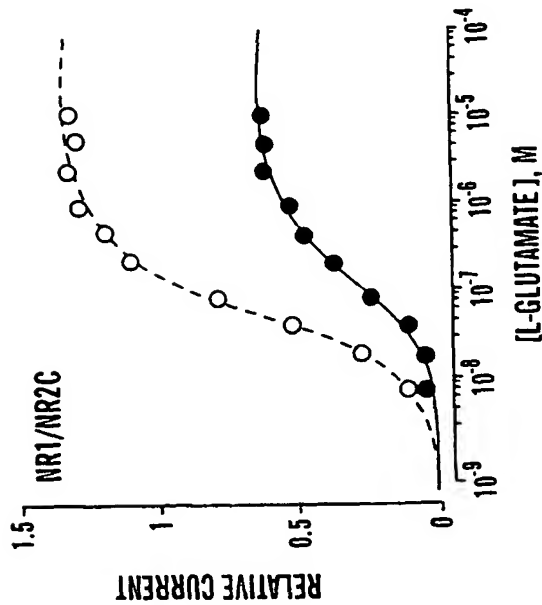


Applicant(s): Farb et al.

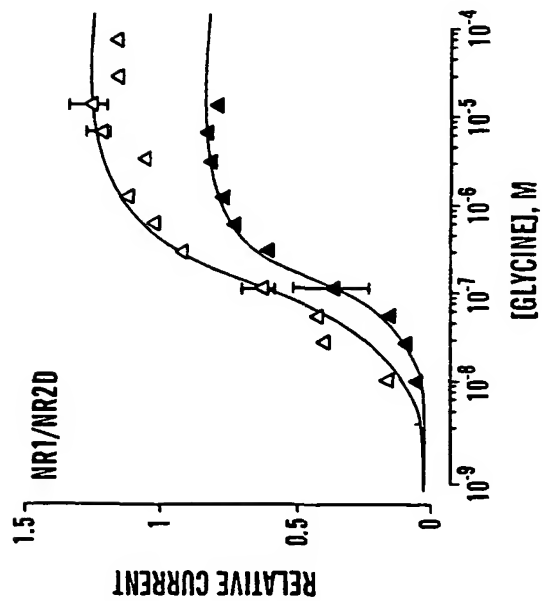
EFFECT OF STEROIDS ON NMDA RECEPTORS DEPENDS  
ON SUBUNIT COMPOSITION



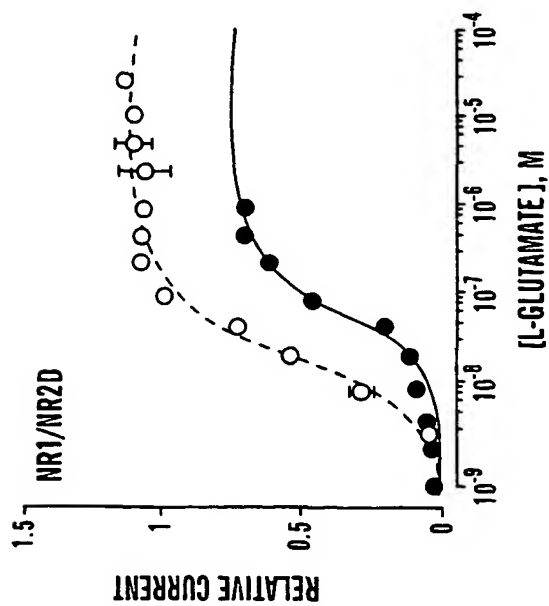
**FIG. 29L**



**FIG. 29K**



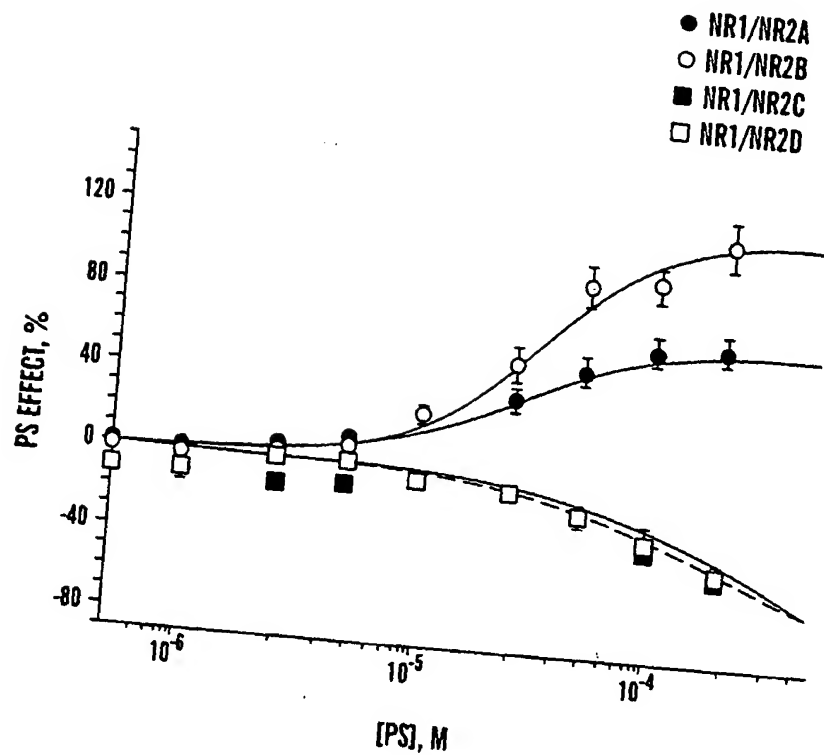
**FIG. 29N**



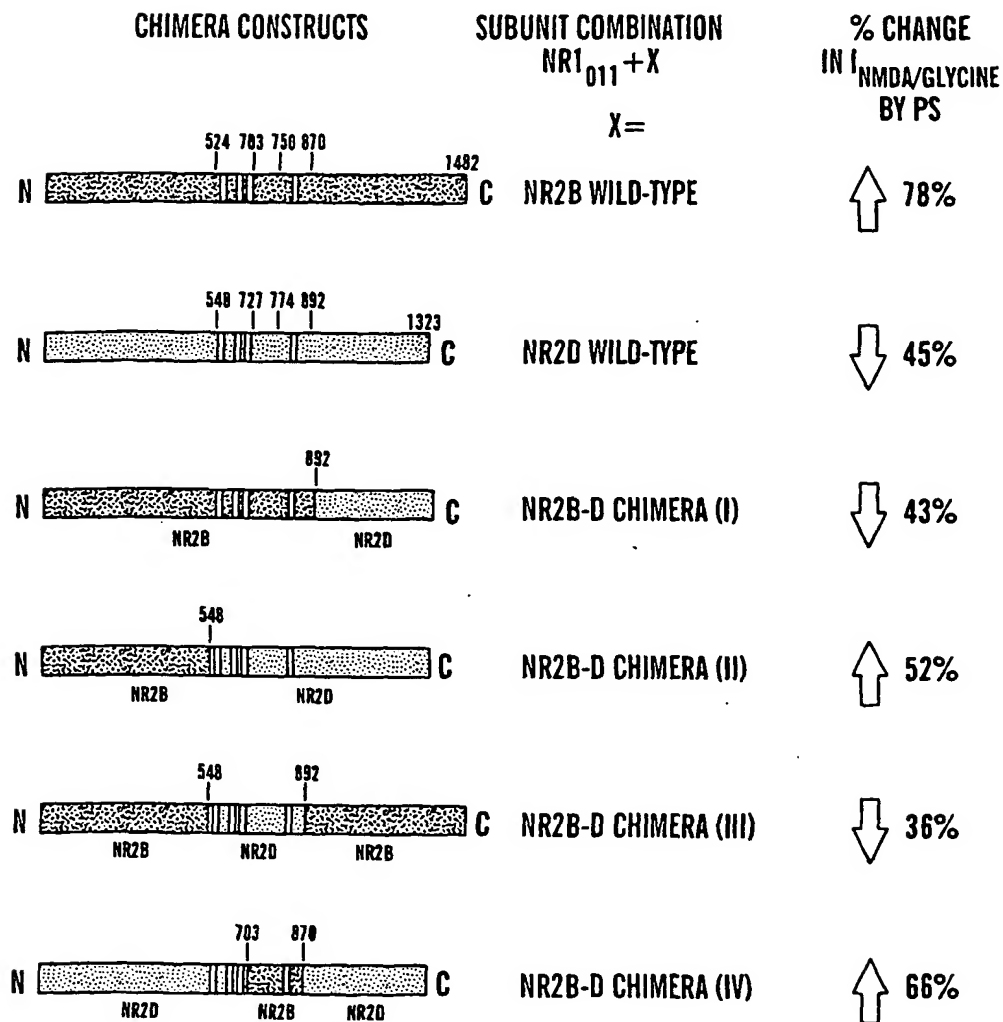
**FIG. 29M**

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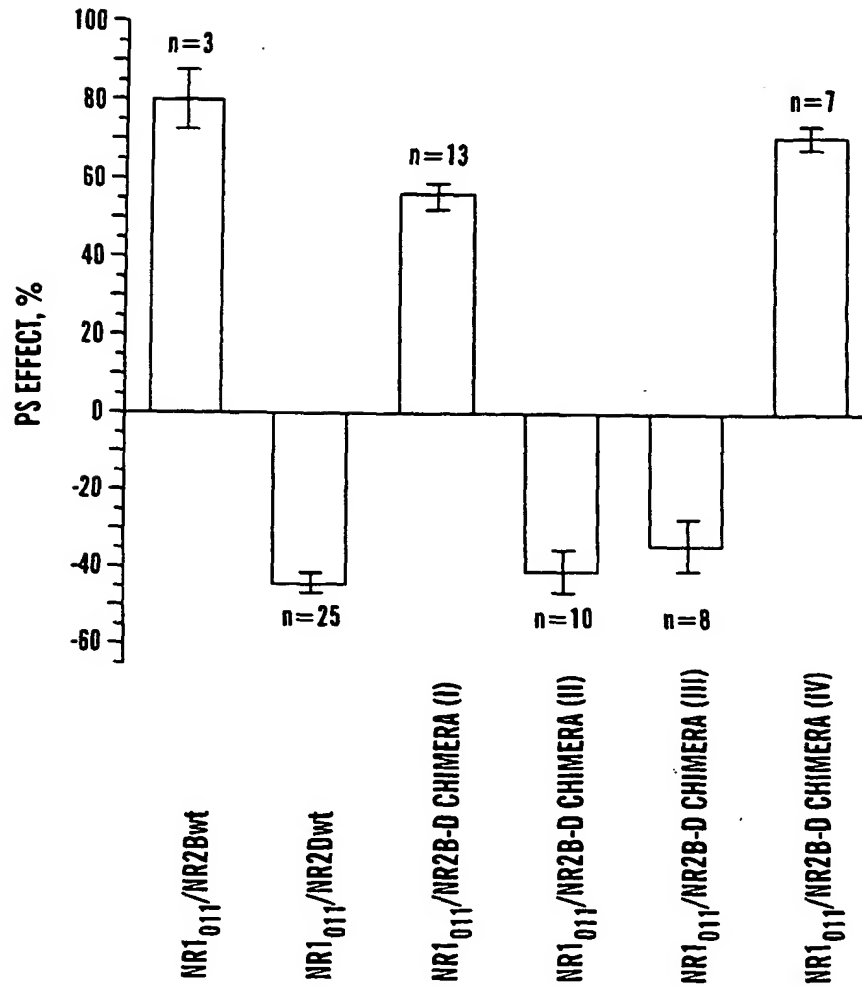
EFFECT OF STEROIDS ON NMDA RECEPTORS DEPENDS  
ON SUBUNIT COMPOSITION



**FIG. 30**



**FIG. 31**



**FIG. 32**

FIGURE 33

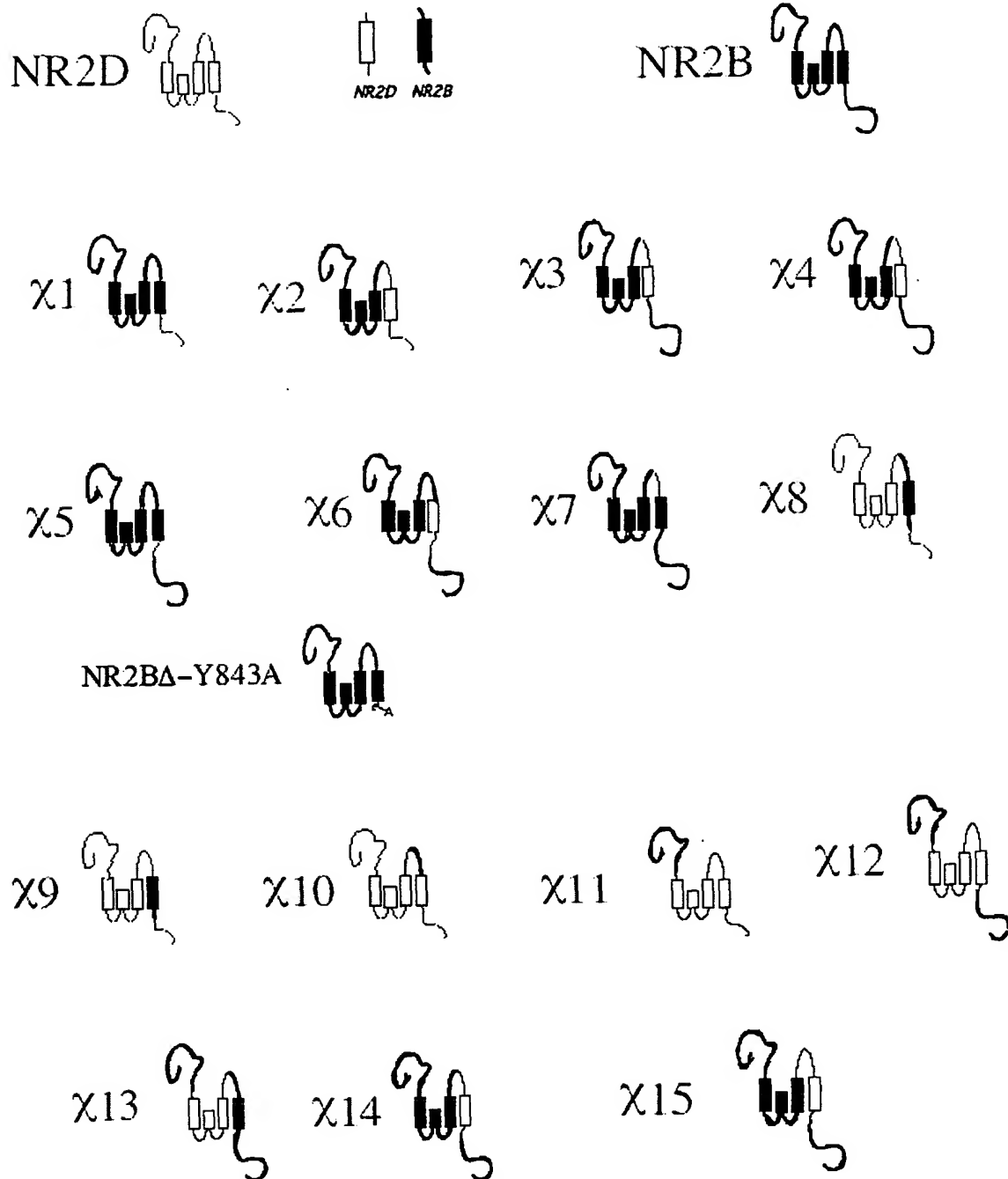


FIGURE 34

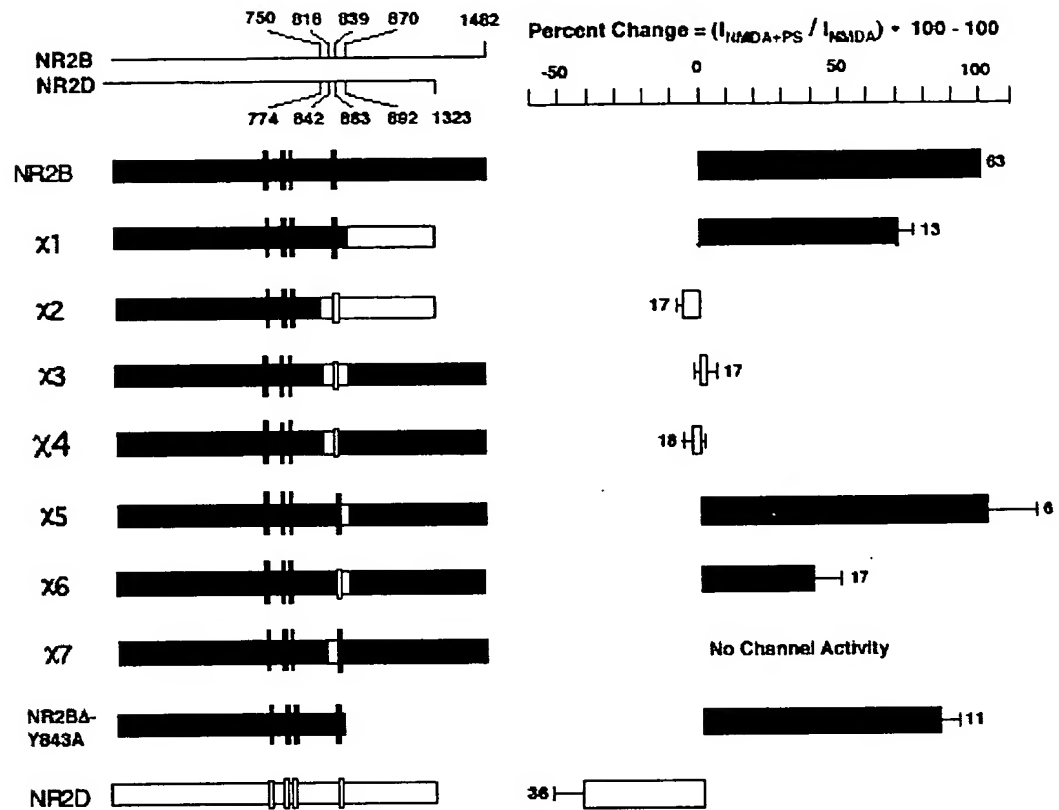


FIGURE 35

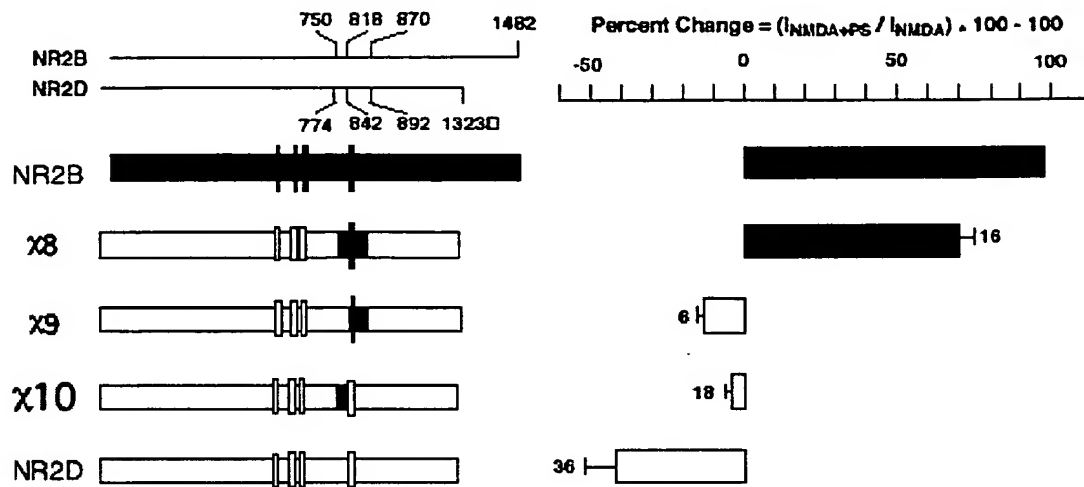




FIGURE 36

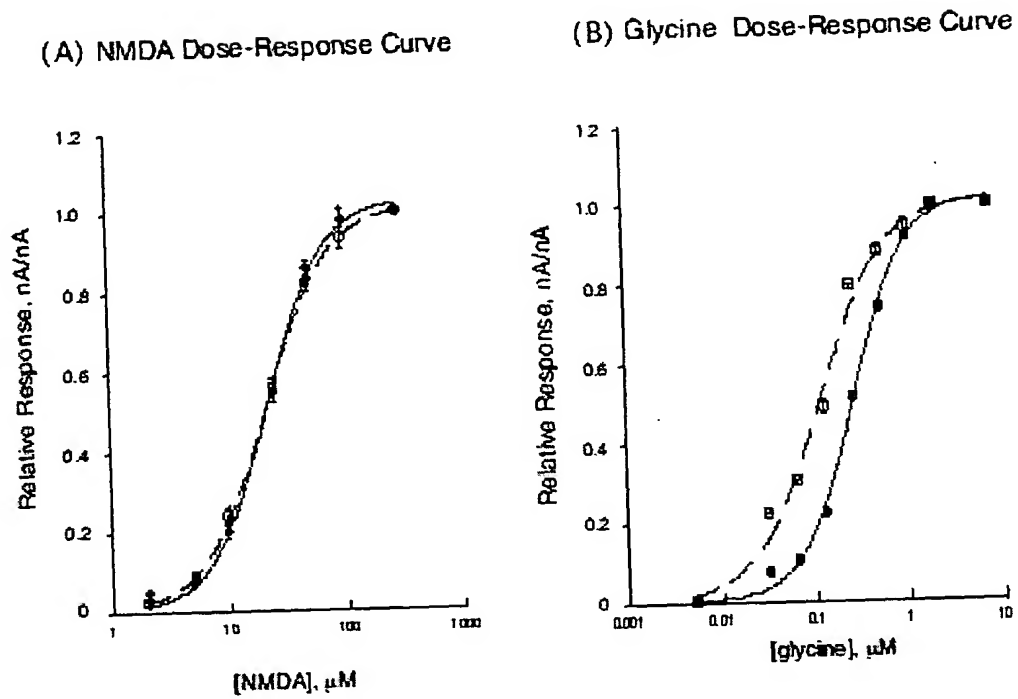


FIGURE 37

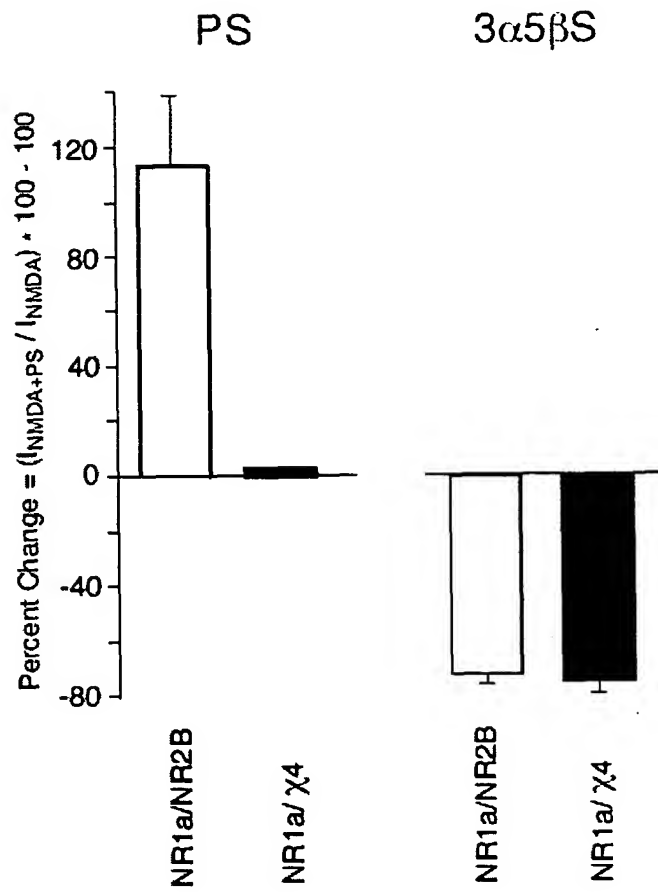


FIGURE 38

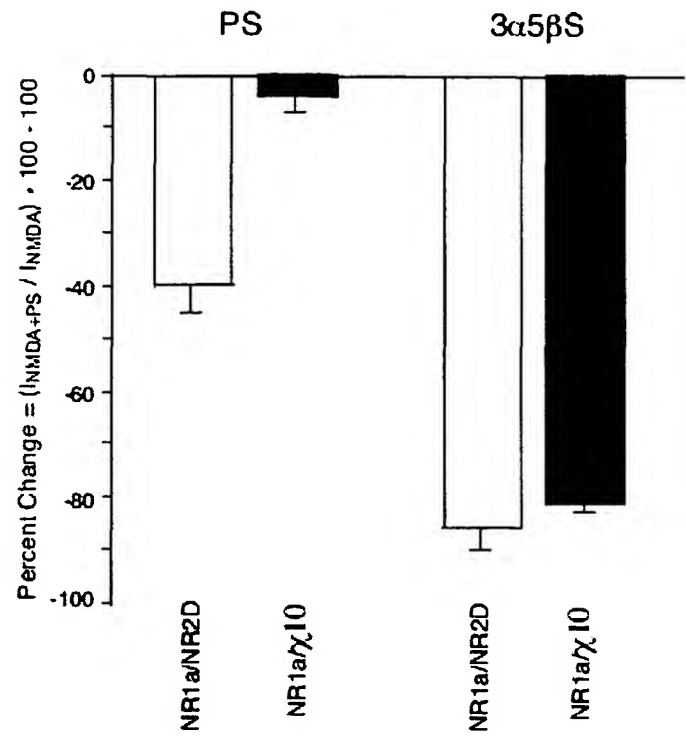


FIGURE 39

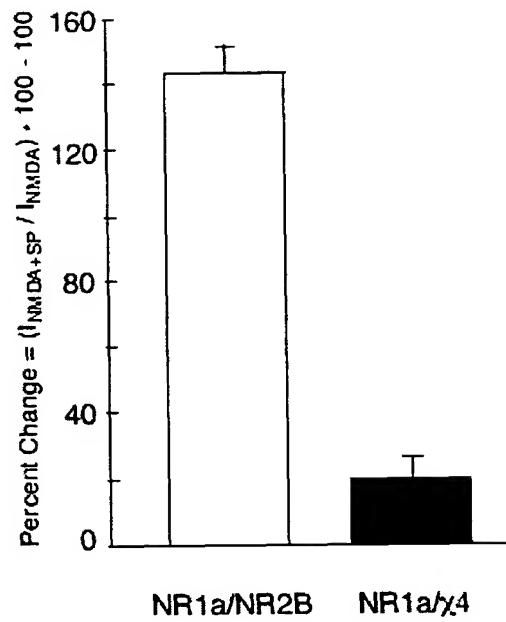


FIGURE 40

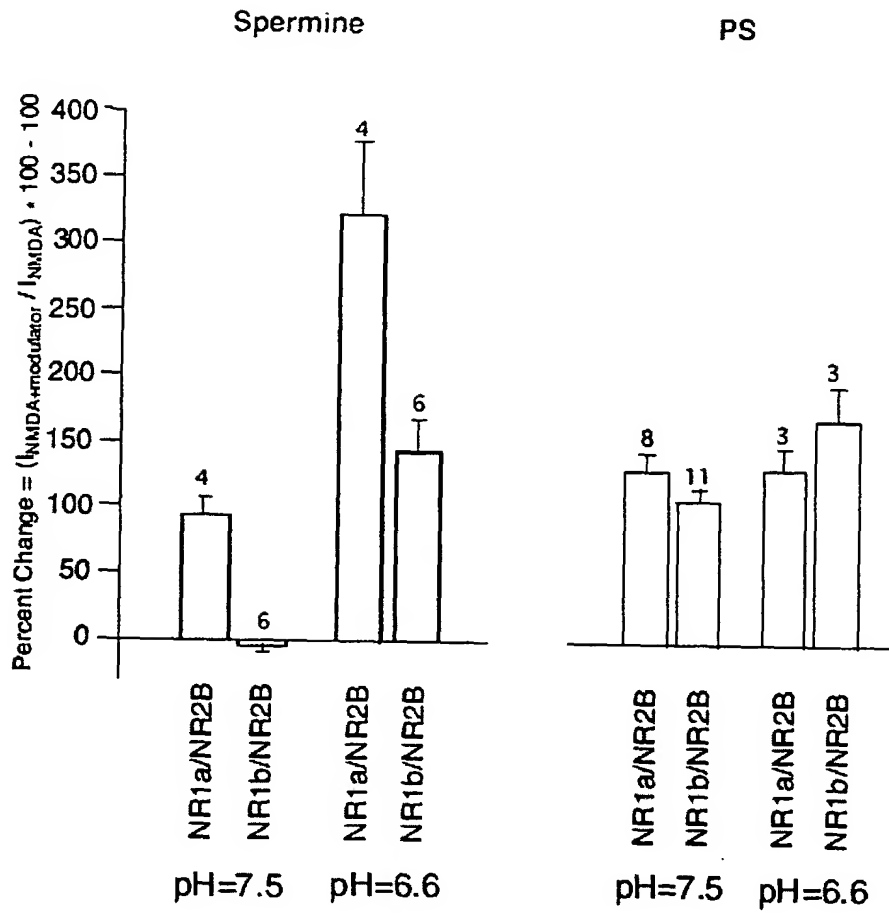
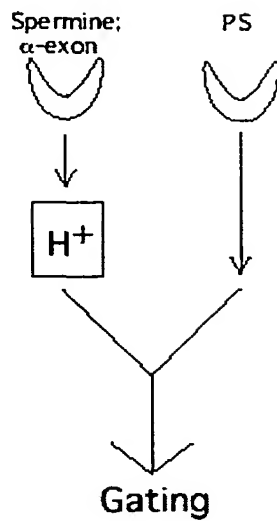
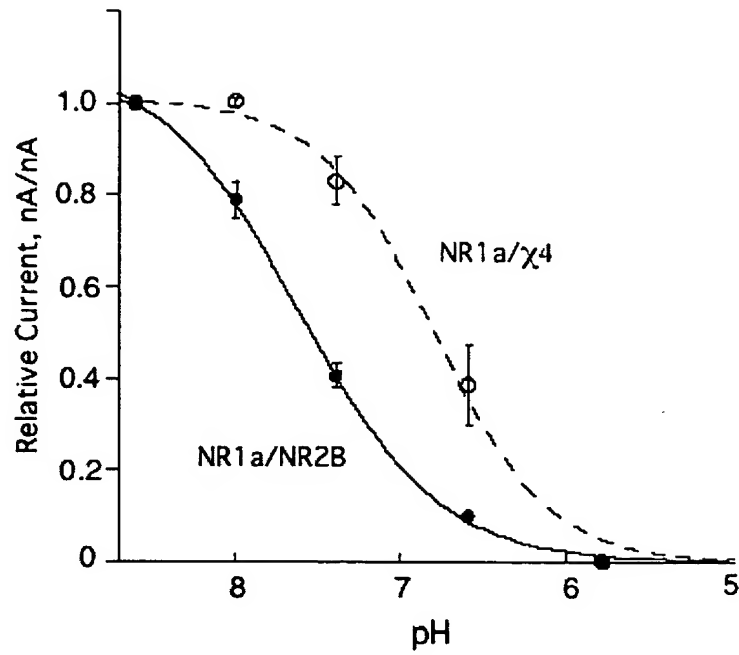


FIGURE 41



Because the potentiating effect of spermine is dependent on the proton sensor, it is plausible that the loss of the spermine effect at NR1a/χ4 containing receptors is not due to a change in the spermine-binding site, but rather a secondary phenomenon that reflects an alteration in proton sensitivity. To investigate this idea, we further characterized NR1a/χ4 receptors to investigate if proton sensitivity is altered in these receptors.

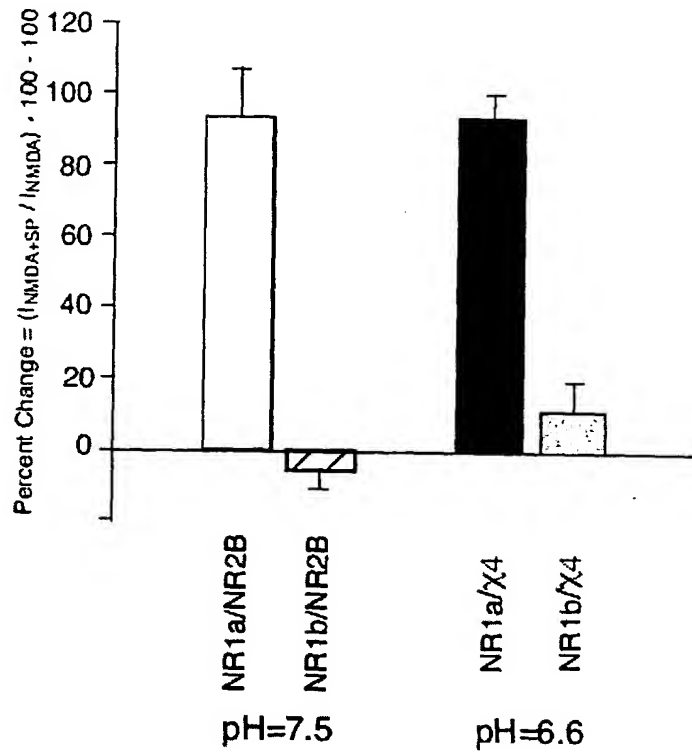
FIGURE 42



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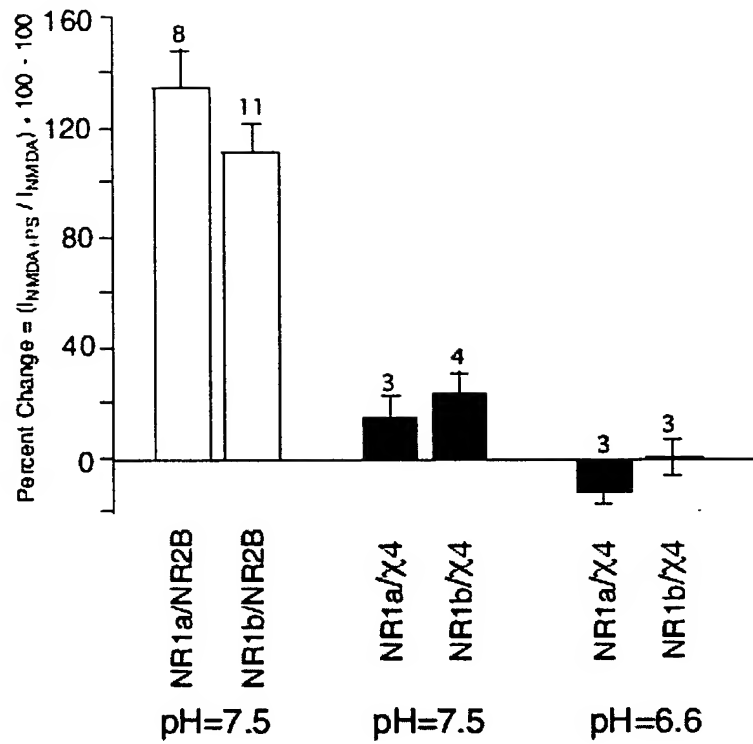
FIGURE 43





EFFECT OF STEROIDS ON NMDA RECEPTORS DEPENDS  
 ON SUBUNIT COMPOSITION

FIGURE 44



EFFECT OF STEROIDS ON NMDA RECEPTORS DEPENDS  
ON SUBUNIT COMPOSITION

FIGURE 45

**NR2A** VTIG SGYIFASTGY GIALQKGSFW KRQIDLALLQ EVGDGEMEEL ETLNLTGICH  
**NR2B** 749 VTIG SGKVFASTGY GIAIQKDSGW KRCVDLAILQ LRGDGEMEEL EALNLTGICH  
**NR2C** VTIG SGKVFATTGY GIAMQKDSHW KRAIDLALLQ LLGDGETQKL ETVWLSGICQ  
**NR2D** 773 VTIG SGKVFATTGY GIALHKGSRW KRPIDLALLQ ELGDDEIEML ERLWLSGICH

**NR2A** NEKNEWSSQ LDIDNMAGVF YMLAAPMALS LITFIWEHLF YWKLRFCTG  
**NR2B** 803 NEKNEWSSQ LDIDNMAGVF YMLGAAMALS LITFICEHLF YWQFRHCEMG 952  
**NR2C** NEKNEWSSK LDIDNMAGVF YMLLVAMGLA LLVFAWEHLV YWKLRLHSHN  
**NR2D** 827 NDKIEWSSK LDIDNMAGVF YMLLVAMGLS LLVFAWEHLV YWRLRHCLGP 876

TM4
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FIGURE 46

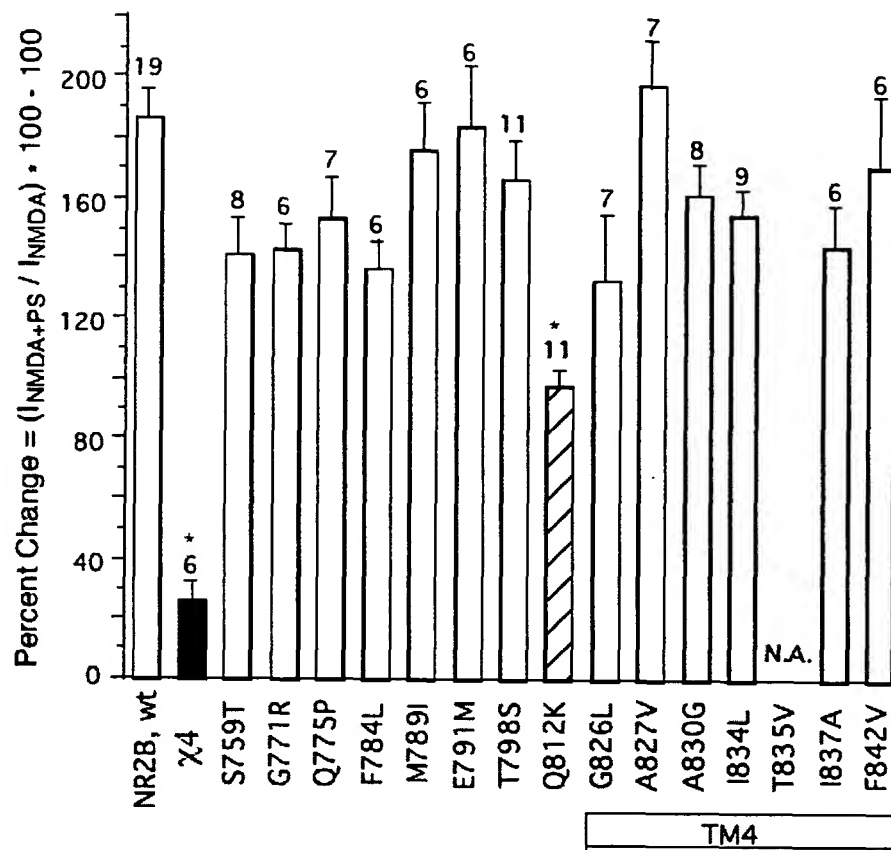


FIGURE 47

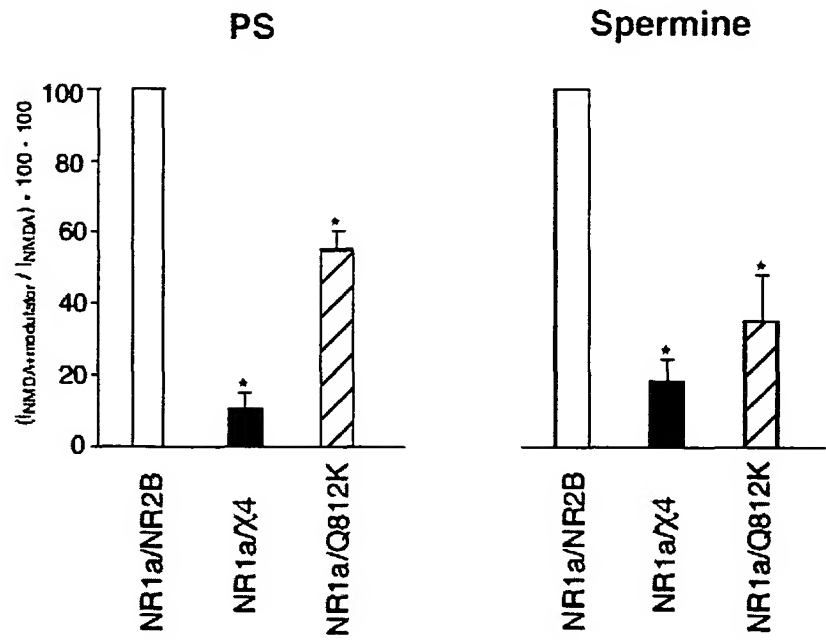


FIGURE 48

(A) Topology of the GluR2 subunit.

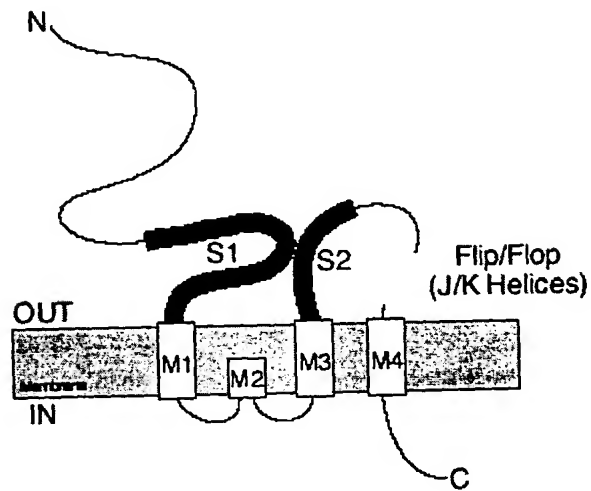


FIGURE 49

